C59.2:N21

PENNSYLVANIA STATE UNIVERSITY
OCT 27 1980
DOCUMENTS COLLECTION

National-Regional Impact Evaluation System

Structure, Performance, and Application of a Bottom-up Interregional Econometric Model

NRIES

U.S. DEPARTMENT OF COMMERCE
Bureau of Economic Analysis
Regional Economic Analysis Division

NRIES

National-Regional Impact Evaluation System

Structure, Performance, and Application of a Bottom-up Interregional Econometric Model

By

Kenneth P. Ballard
Richard D. Gustely
Robert M. Wendling

U.S. DEPARTMENT OF COMMERCE
Bureau of Economic Analysis
Regional Economic Analysis Division

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Acknowledgments

A number of individuals in the Bureau of Economic Analysis (BEA) and other Government agencies have provided invaluable assistance in various phases of this research. The authors would like to acknowledge gratefully the overall support provided by Daniel Garnick, Associate Director for Regional Economics at BEA. A. Ray Grimes, as Chief of the Regional Economic Analysis Division, directed the NRIES project from its conception to its implementation. In addition, his helpful comments on numerous drafts significantly enhanced the quality of this manuscript. John Kort, who presently directs the modeling effort, worked on extensions and applications of the model, and played a significant role in the revision of this monograph. Joseph Cartwright aided in the initial data and development phases of the model. James Younger provided comments and assistance in the editing of the monograph. Kelly Wilson and Hilda Tolson typed and prepared the manuscript.

Among those outside BEA, we would like to thank first Norman Glickman. As a professor at the University of Pennsylvania, he worked with Kenneth Ballard in the development of the Delaware Valley Model, which is the structural precursor to the NRIES model. In addition, as a visiting scholar at the Department of Housing and Urban Development, he assisted in some of the applications contained in this report, and has collaborated on several papers describing applications of NRIES.

Hugh Knox, now of the U.S. Department of Commerce, and Eugene Rossidivito and David Sandoval, of the Department of Energy, provided comments, and their agencies provided financial assistance in the energy-related applications of NRIES, as discussed in chapters 7 and 8. William Thomas, of the Institute for Defense Analysis, provided comments on the labor-demand application of the model and William Hahn, of the Department of Labor, monitored that application, as discussed in chapter 8. John Ross, of the Department of Housing and Urban Development, also provided comments, and his agency provided financial assistance in the applications of NRIES, as described in chapters 7 and 8.

Within BEA, numerous individuals provided assistance related to their fields of expertise. Because BEA is one of the foremost sources of economic data and the analysis of these data, it is not possible to identify all of these individuals by name or to elaborate the extent of their inputs into the model development. Specific acknowledgment, however, must be expressed for the support provided by Bruce Levine and Rudolph DePass, Regional Economic Analysis Division; David Cartwright, Elizabeth Queen, and Vivian Conklin, Regional Economic Measurement Division; Don Parschalk and Sybella G'Schwend, Current Business Analysis Division; Douglas Bracy, Computer Systems and Services Division; David Levin, Government Division; and Donald Eldridge, National Income and Wealth Division. In addition, helpful comments on an earlier draft of this monograph were provided by Frank de Leeuw, Chief Statistician; Albert Hirsch, Assistant to the Director for Econometrics; and Henry Townsend and Hua-Shan Chi, Business Outlook Division.

Some of the material in this report is condensed from various published articles about NRIES applications: Ballard and Wendling (1980); Ballard, Glickman, and Gustely (1980); Ballard, Glickman, and Wendling (1980); Gustely and Ballard (1979a); Gustely and Ballard (1979b); and Wendling and Ballard (1980). Full citations can be found in the bibliography, and copies can be obtained from the authors or the Regional Economic Analysis Division, Bureau of Economic Analysis, Washington, D. C. 20230.

Foreword

The Federal Government has become increasingly concerned in recent years with the measurement and analysis of the regional impacts of its programs and policies. In making these assessments, a variety of analytical approaches have been employed. In most instances, the analytical systems have been constructed to analyze a specific program, or set of similar programs, and, generally, to analyze these programs for a single region or for several regions, each in isolation.

More recently, impact models have been constructed that are more general purpose in nature. Such models can be used to analyze the effects of a wide variety of programs on all affected regions. In most instances, these models are designed to be applied within a previously determined national framework; thus, they typically are concerned with allocating among regions the national economic activity levels and national impacts. In this approach, interactions between regions are often not explicitly modeled, and, thus, their effects may not be reflected in the resulting allocations.

The model described in this monograph (NRIES) is a departure from most existing multiregional models in that it is a "bottom-up" model of the U.S. economy; it models the national economy by modeling its regional (State) components. The model also explicitly considers regional interrelationships through the use of regional interaction variables in many of its equation specifications. These two features, the bottom-up configuration and the explicit consideration of interregional linkages, together with the incorporation of a large number of policy variables, enable the more complete analysis of regional, as well as national, impacts of those Federal programs and policies that have a regional dimension.

Though NRIES generates projections of the national economy, with most national variables derived as the summation of corresponding State variables, it is not intended that this be the primary function of the model. However, the derivation of national economic activity from regional activity, besides enabling the estimation of national impacts of events that occur at the regional level, allows for the interaction of regions and provides a macro-level check on the reasonableness of the estimates of regional activity.

The model, like other State and regional models, suffers from a number of data deficiencies, most importantly the lack of a set of State economic accounts and measures of interstate trade flows. The model is aggregative, industrially as well as geographically, and is based on annual data. The latter feature, though not a deficiency, does make the model more useful for impact analysis and medium-term projections, than for business cycle analysis and short-term forecasting.

This monograph describes the structure and performance of NRIES and provides examples of the application of the model in analyzing regional impacts of Federal program and policy changes. The monograph also discusses current and planned research to alleviate some of the model's current shortcomings and to expand the range of regional issues it can address.

September 1980 A. Ray Grimes

Digitized by the Internet Archive
in 2013

http://archive.org/details/nriesnationalreg00ball

TABLE OF CONTENTS

Chapter		Page
1.	Introduction	1
	Overview of the Model	1
	Scope of the Study	2
2.	Regional Trends in Economic Activity	3
	Regional Growth, 1950-77	3
	Regional Distribution of Personal Income	6
	Industrial Composition of Regional Economic Activity	9
	A Summary of Regional Trends	21
3.	Regional Modeling Techniques	22
	Models for a Single Region	22
	Subnational Multiregion Models	23
	National Multiregion Models	24
4.	The Structure of NRIES	26
	The Model System	26
	Interregional Linkages in the Model	31
	Model Dimensions	32
5.	The Specification of NRIES Equations	33
	Output Sector	34
	Employment Sector	41
	Personal Income Sector	43
	Demographic Sector	49
	Government Fiscal Sector	54
	Retail Sales and Automotive Sector	60
	National Model	65
6.	Measuring NRIES Performance	76
	Analysis of Error Statistics	76
	Analysis of Multipliers	84
7.	The Application of NRIES	98
	Single-Region Case: A Montana Coal Scenario	98
	Multiregion Case: A National Coal Scenario	106
	National Case: A Grants-in-Aid Scenario	109
8.	Summary of Conclusions	116
	Summary	116
	Advantages and Limitations of NRIES	117
	Current Extensions of NRIES	118
Bibliography		121
Appendix A.	NRIES Variables and Model Identities	126
Appendix B.	Data Sources	150
Appendix C.	Equations	155

LIST OF TABLES

		Page
2.1	Growth of Personal Income (Nominal) by Region, 1950-1977	5
2.2	Growth of Population by Region, 1950-1977	7
2.3	Regional Distribution of Personal Income	8
2.4	Industry Earnings as a Percent of Total Earnings: United States	11
2.5	Industry Earnings as a Percent of Total Earnings: New England Region	12
2.6	Industry Earnings as a Percent of Total Earnings: Mideast Region	13
2.7	Industry Earnings as a Percent of Total Earnings: Great Lakes Region	14
2.8	Industry Earnings as a Percent of Total Earnings: Plains Region	15
2.9	Industry Earnings as a Percent of Total Earnings: Southeast Region	17
2.10	Industry Earnings as a Percent of Total Earnings: Southwest Region	18
2.11	Industry Earnings as a Percent of Total Earnings: Rocky Mountain Region	19
2.12	Industry Earnings as a Percent of Total Earnings: Far West Region	20
5.1	Major Variable Groups in the NRIES Implicit National Model	66
6.1	Nondynamic Simulation for 1963 to 1976, Mean Absolute Percent Error for Major Aggregate Variables	79
6.2	Nondynamic Simulation for 1963 to 1976, MAPE Summary by Variable Type	81
6.3	Dynamic Simulation for 1963 to 1976, Mean Absolute Percent Error for Major Aggregate Variables	82
6.4	Dynamic Simulation for 1963 to 1976, MAPE Summary by Variable Type	83
6.5	Dynamic Simulation for 1963 to 1971, Mean Absolute Percent Error for Major Aggregate Variables	85

LIST OF TABLES - CONTINUED

Page

6.6 Dynamic Simulation for 1963 to 1971, MAPE Summary by Variable Type 86

6.7 Dynamic Simulation for 1970 to 1976, Mean Absolute Percent Error for Major Aggregate Variables 87

6.8 Dynamic Simulation for 1970 to 1976, MAPE Summary by Variable Type 88

6.9 Comparison of MAPE Statistics for Selected Single Region (SR) State Econometric Models and NRIES 89

6.10 Gross Output Impacts Caused by a $100 Million Increase in Economic Activity for Missouri 91

6.11 Gross Output Impacts Caused by a $100 Million Increase in Economic Activity in all States Except Missouri 94

6.12 Total Impacts on Missouri Output Caused by a $100 Million Increase in Economic Activity in Rest of the U.S 97

7.1 Coal Development Assumptions in Montana 101

7.2 Coal Development Impacts in Montana 102

7.3 Montana Coal Development Impacts in Montana v. Rest of U.S. 104

7.4 Montana Coal Development Impacts by BEA Regions 105

7.5 Advanced Coal Development Assumptions for the National Coal Development Scenario 108

7.6 Regional Impacts on State Gross Product Originating in a National Coal Development Scenario 110

7.7 Distribution of Federal Grants-in-Aid Payments: Comparison of Actual Versus a Hypothetical Income Based Formula 113

7.8 Impact on Selected Variables Due to a Shift from a Personal Income to the Actual GIA Formula (Millions $) 114

LIST OF FIGURES

		Page
2.1	BEA Regions (map)	4
4.1	NRIES Model System Flow Diagram	27
5.1	Output Specification	35
5.2	Employment Specification	42
5.3	Income Specification	44
5.4	Demographic Specification	50
5.5	Government Specification	55
5.6	Retail Sales and Automotive Specification	61
5.7	National Specification	67
6.1	Variable Confidence Interval Through Time	78
6.2	Regional Impacts from an Output Change in Missouri: Relationship Between State Output Impacts and Distance	92
6.3	Gross Output Multipliers: Increase in Durables Output in all States but Missouri (map)	95
7.1	Simplified NRIES Flow Diagram for Montana Coal Development	99
7.2	NRIES Flow Diagram for a National Coal Scenario	107
7.3	The Structure of the State and Local Government Fiscal Sector in NRIES	111

Chapter I

INTRODUCTION

Over the past 20 years, many types of models have been used to analyze regional economic activity. At one extreme, regional input-output models have been employed to analyze the interrelationships among industries in a high degree of detail. At the other extreme, regional economic base models have been used in the analysis of the economic interactions between only two industrial sectors--basic and nonbasic. Because regional econometric models represent a compromise between these two extremes of industrial detail, they have gained popularity in recent years.

Most of the regional econometric models, however, have been built for single regions. While they represent an important advance over their economic base model predecessors, these single-region models have two significant limitations. First, because they focus on only one region, they do not take account of interrelationships among regions within the Nation. Second, because they are typically structured as satellites to a national model, they ignore the effect that changes in the regional economies can have on the national economy.

In addressing the first limitation of single-region models described above, recent modeling efforts have focused upon multiregion models. By explicitly accounting for the relationships among regions, more accurate estimates of regional economic activity can be obtained. In addition, the range of policy applications is expanded with multiregion models, since it is possible to focus on policy questions that may differentially affect the regions.

However, the second limitation, that single-region models are not structured to analyze the effects of regional changes on the national economy, also applies to some multiregion models. Specifically, multiregion models that are driven by a national model (from the top-down) cannot easily be used to determine the impact of changes in the regional distribution of economic activity on the aggregate level of national economic activity. This is due to the fact that these models typically allocate given national totals among the various regions. By modeling the regions as distinct economies which both affect and are affected by the national economy (from the bottom-up), more refined estimates of these feedback effects can be obtained. This approach is particularly useful when the model is used to analyze the impacts of public policy on both the national and regional levels.

Such an approach has recently been employed in the construction of an econometric model of the U.S. economy. The purpose of this study is to describe the structure, performance, and application of this bottom-up multiregional, interactive, econometric model. This model, the National-Regional Impact Evaluation System (NRIES), was developed by the Regional Economic Analysis Division of the Bureau of Economic Analysis (BEA). Its primary use is to estimate through time the spatial distribution of impacts resulting from policy alternatives. The model may also be used for medium-range (5-10 years) forecasting of regional economic activity.

OVERVIEW OF THE MODEL

NRIES is composed of both regional and national components. The regional component includes separate submodels for each of the 50 States and the District of Columbia.1/ The national component includes both national aggregates, expressed as the sum of economic activity

---

1. The District of Columbia model is structured similarly to the 50 State models and will be referred to as a "State" model.

in the States. and stochastic variables, expressed as a function of national variables. Because of NRIES' unique structure, the overall level and regional distribution of economic activity in the Nation are simultaneously determined.

The State submodels comprise the core of NRIES. In the typical NRIES State model, the magnitude of economic activity in the State (e.g., industrial output or employment in an industry) is generally expressed as a function of three types of variables: economic activity in related sectors within the State, the economic or demographic "interaction" among States, and certain nationally determined levels of economic activity. As in single-region econometric models, the activities of related sectors within State economies form the internal linkages for each State submodel. This type of linkage includes the use of disposable income in an output equation or output in an employment equation within a particular State. The "interaction" variables are indices of economic and demographic activity in all other States. These indices are defined as the activity of certain sectors, deflated by the physical distance to the particular State in question, and summed over all States in the Nation. When incorporated into the State equations, these indices form explicit interregional linkages among the States. The State submodels also include two types of national variables: national totals, which are expressed as the sum of an activity in all States; and certain variables that typically show little spatial variation (e.g., interest rates and sector prices) and thus are modeled as a function of national activity. Both types of national variables when used in the State equations form an additional linkage between the individual State submodels and the national economy.

NRIES is a highly detailed model of regional economic and demographic interrelationships within the national economy. Each of the State submodels consist of 264 equations, of which 68 are behavioral. There are, in addition, 98 equations in the national model, 20 of which are behavioral. Thus, the full model system has about 14,000 equations 3,500 of which are behavioral.

The State submodels include a wide range of economic variables. Major categories include industrial output, employment and wages (twelve industries each), nonwage income sources (four components), State and local government revenues and expenditures (ten categories), personal tax and nontax payments (five categories), retail sales (five outlet types), population (five cohorts), births and deaths, unemployment (total and insured), and total labor force.

SCOPE OF THE STUDY

The body of this study is divided into eight chapters. Chapters 2 and 3 place the regional analysis in perspective. Chapter 2 presents a brief summary of economic trends in each of the States over the 1950-77 time period. The analysis emphasizes the divergent State and industry growth trends within the United States to highlight the basic elements in the NRIES: the individual State models. Chapter 3 briefly discusses the different types of macroeconomic modeling techniques that can be applied to regional analysis efforts. This includes a consideration of both single-region and multiregion models.

Chapters 4 and 5 discuss the basic structure of NRIES. Specifically, in chapter 4 the general specification of the model is described and the theoretical justification of the methodology is discussed. Chapter 5 then presents a detailed description of the specification of the equations that comprise the various sectors of the model.

Chapters 6 and 7 present the results of empirical tests and applications of the model. The performance of NRIES is the focus of Chapter 6. Both dynamic error statistics and implicit impact multipliers within the estimation period are used to demonstrate the accuracy of the model. Chapter 7 contains examples of typical applications of NRIES. For this purpose, both national and subnational applications were chosen to demonstrate NRIES' flexibility.

Finally, Chapter 8 provides a brief overview of this monograph and presents a discussion of current and planned extensions of NRIES. A complete listing of variables, data sources, and State equations is contained in the appendixes.

Chapter 2

REGIONAL TRENDS IN ECONOMIC ACTIVITY

Essential to the formulation of any multiregion model is an understanding of differences in the economic structure and growth among its component regions. It is precisely these regional differences that such a model seeks to explain. In NRIES these differences specifically affect the size of the estimated parameters and sometimes the use of particular explanatory variables in the State equations, the accuracy and performance of the model system, and the results of the applications.

To highlight these regional differences, this chapter presents a discussion of historical growth trends for two key regional variables, personal income and population, from 1950 to 1977. Based upon data for this same period, changes in the industrial structure of regions are also analyzed and presented. As will be the case in subsequent chapters, the focus is on the 51 States modeled in NRIES. To facilitate comparisons, the States have also been aggregated into the eight BEA regions. The States included in each BEA region are indicated in figure 2.1.

Changes in the regional distribution of economic indicators between points in time reflect both long-term growth, which is the focus of this chapter, and short-term sensitivity to business cycles.1/For the analysis in this chapter, it was necessary to select a set of terminal years that represent comparable points in the cycle to remove the influence of the business cycles on personal income and population levels.2/ Two periods, 1950-51 and 1976-77, were chosen for this reason, each occurring about 2 years after a business cycle trough. In addition, because the analysis spans a relatively long period of time, an intermediate point comparably placed on the business cycle, 1963-64, was identified as a break between an 'earlier' and 'later' interval. For all three periods the 2-year average was applied to reduce any disparities that might result from single-year disturbances.

The remainder of this chapter will first examine regional growth trends in personal income (current dollars) and total population. Changes in the industrial structure of the 51 States, based upon earnings data (current dollars), will also be examined.

REGIONAL GROWTH, 1950-77

As shown in table 2.1, total U.S. personal income (in current dollars) rose at an annual rate of 7.1 percent between 1950-51 and 1976-77. During the later interval (1963-64 to 1976-77), the average growth rate of 8.8 percent was much higher than the growth rate of 5.5 percent in the earlier interval (1950-51 to 1963-64). Consumer prices followed the same pattern, however, rising 5.2 percent between 1963-64 and 1976-77 and only 1.6 percent between 1950-51 and 1963-64. If the Consumer Price Index is used to deflate the nominal growth of total personal income, 'real' income rose 3.9 percent annually in the earlier interval, and at fractionally below that, 3.6 percent, in the later.

Among the eight BEA regions, the Far West, led by strong advances in Nevada (ranking first among States) and California (fourth), registered the highest growth in personal income (nearly 30 percent greater than the national growth) from 1950-51 to 1963-1964. The Southeast region's personal income growth ranking was relatively consistent, placing second among all rankings in both intervals. Led by Florida's strong early growth (second) and strong advances in Florida, South Carolina, Arkansas, and Georgia in the later interval (all among the top third in State gains), the growth rate of the Southeast region over the two-and-one-half decades led the national rate.

---

1. See Bretzfelder (1973) and Friedenberg and Bretzfelder (1980) for a study of the magnitude of these differences based on personal income data.

2. See Schwartz and Graham (1956).

Figure 2.1: BEA Regions

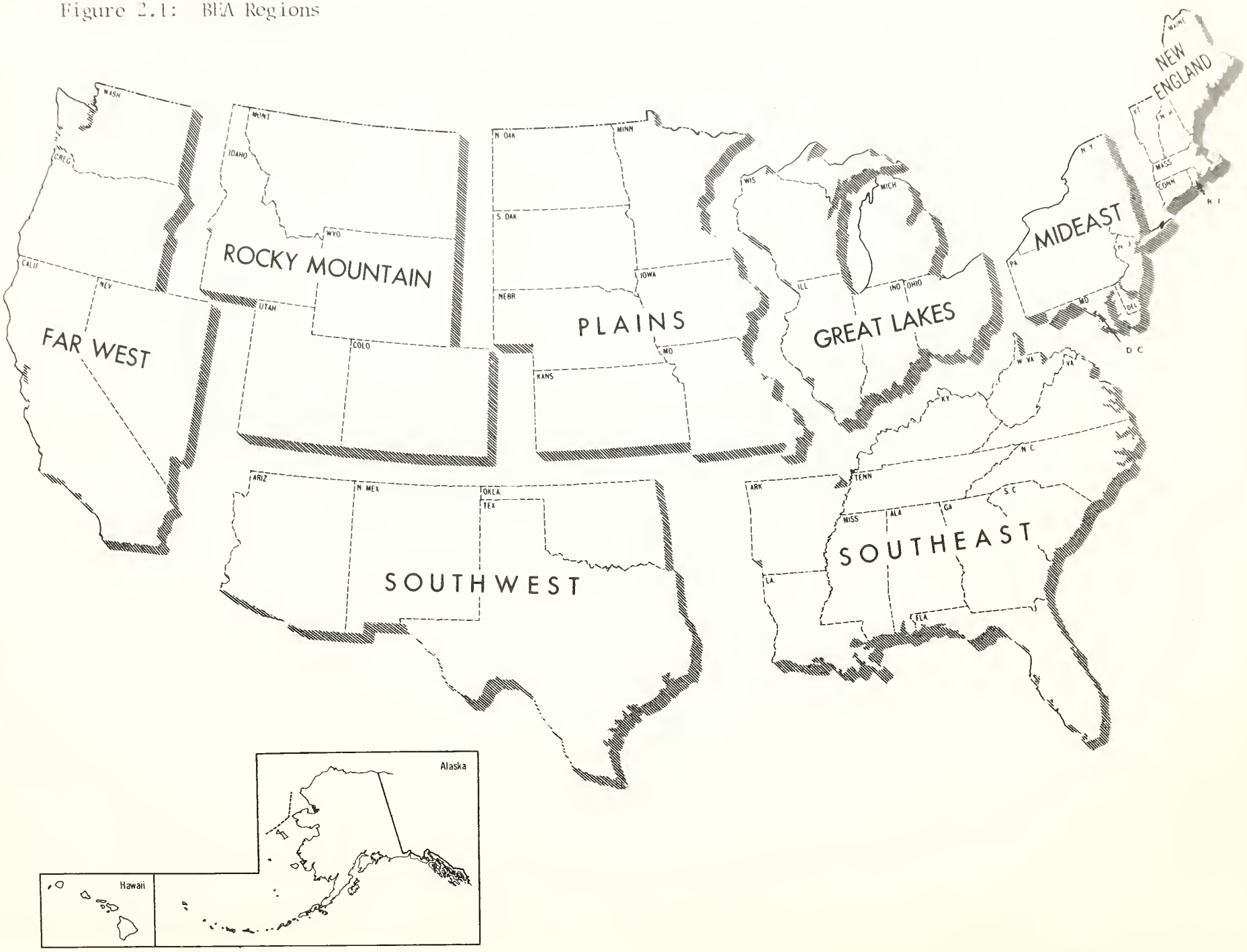


Table 2.1

Growth of Personal Income (Nominal) by Region, 1950-1977

	1950-51 to 1963-64		1963-64 to 1976-77		1950-51 to 1976-77	
	Value	Rank	Value	Rank	Value	Rank
United States	5.5		8.8		7.1	
BEA Regions						
New England	5.2	5	8.1	7	6.6	6
Mideast	5.0	6	7.6	8	6.3	8
Great Lakes	5.0	7	8.3	6	6.6	5
Plains	4.5	8	8.6	5	6.5	7
Southeast	6.0	2	10.3	2	8.1	2
Southwest	5.8	3	10.5	1	8.1	1
Rocky Mountain	5.5	4	9.9	3	7.7	4
Far West	7.0	1	9.2	4	8.1	3
Alabama	5.7	17	9.6	22	7.7	18
Alaska	5.3	21	14.3	1	9.7	4
Arizona	9.1	3	11.4	3	10.2	3
Arkansas	5.1	25	10.0	13	7.5	20
California	7.5	4	8.9	30	8.2	7
Colorado	6.5	8	10.6	7	8.5	6
Connecticut	6.1	11	8.0	46	7.0	31
Delaware	6.2	10	8.2	41	7.2	27
D.C.	3.1	51	6.2	51	4.7	51
Florida	9.6	2	11.9	2	10.7	2
Georgia	6.0	12	10.1	11	8.1	10
Hawaii	7.2	5	10.2	8	8.7	5
Idaho	4.6	40	10.2	10	7.3	22
Illinois	4.9	34	8.1	44	6.5	39
Indiana	5.1	27	8.5	38	6.8	34
Iowa	3.8	46	8.5	37	6.1	45
Kansas	4.8	36	8.5	36	6.6	36
Kentucky	5.0	30	9.7	21	7.3	23
Louisiana	5.8	16	9.8	18	7.8	16
Maine	4.5	41	8.6	34	6.5	38
Maryland	6.6	7	9.5	25	8.0	11
Massachusetts	5.0	33	7.8	48	6.4	41
Michigan	5.1	26	8.7	32	6.9	32
Minnesota	5.2	24	9.2	28	7.2	28
Mississippi	5.3	22	9.7	19	7.5	21
Missouri	4.8	37	8.2	42	6.5	40
Montana	3.7	48	8.3	40	6.0	48
Nebraska	4.0	44	8.5	35	6.3	42
Nevada	10.7	1	10.8	4	10.7	1
New Hampshire	5.9	15	9.8	17	7.8	15
New Jersey	5.9	14	8.1	43	7.0	30
New Mexico	6.9	6	9.5	24	8.2	8
New York	5.0	31	6.9	50	5.9	49
North Carolina	5.5	18	10.0	14	7.7	17
North Dakota	3.8	45	8.7	31	6.2	43
Ohio	5.0	29	8.1	45	6.5	37
Oklahoma	5.0	32	9.7	20	7.3	25
Oregon	4.7	39	9.9	16	7.2	26
Pennsylvania	4.2	43	7.9	47	6.1	46
Rhode Island	4.2	42	7.8	49	6.0	47
South Carolina	5.2	23	10.7	5	7.9	13
South Dakota	3.2	50	8.3	39	5.7	50
Tennessee	5.4	20	9.9	15	7.6	19
Texas	5.5	19	10.6	6	8.0	12
Utah	6.4	9	9.4	27	7.9	14
Vermont	4.7	38	9.5	26	7.1	29
Virginia	6.0	13	10.2	9	8.1	9
Washington	5.0	28	9.6	23	7.3	24
West Virginia	3.3	49	9.1	29	6.2	44
Wisconsin	4.9	35	8.6	33	6.7	35
Wyoming	3.7	47	10.0	12	6.8	33

The Plains region grew at the slowest rate among all regions between 1950-51 and 1963-64. Small gains in South Dakota (50th), Iowa (46th), and North Dakota (45th) mainly contributed to the low regional growth. In the later interval, however, the growth rate increased to above those in three other regions and only fractionally lagged behind the Nation's average.

Between 1963-64 and 1976-77, the Southwest region registered the highest rate of personal income growth. Led by strong advances in Arizona (third) and Texas (sixth), this represented a change from the third highest regional growth rate in the earlier interval. Over the entire timespan, the Southwest and Southeast registered annual growth rates that were faster than those in any of the other six regions. This trend of higher growth in these two warm regions has been both consistent and long term.

The Mideast region grew at the slowest rate among regions from 1963-64 to 1976-77 and at the slowest rate over the entire period. The main cause was the slow personal income growth in the later period in the large States of New York (ranking 50th) and Pennsylvania (47th) and in the District of Columbia (51st).

The last two columns of table 2.1 list the average annual growth of personal income by region and by State between 1950-51 and 1976-77. During this time, income grew the fastest in Nevada, Florida, and Arizona. The slowest growing areas were the District of Columbia, South Dakota, and New York.

As would be expected, the regional patterns of personal income growth tend to parallel the regional growth patterns of population, found in table 2.2. Nationally, population increased 1.7 percent from 1950-51 to 1963-64 and at the much slower rate of 1.0 percent from 1963-64 to 1976-77. Overall, while the Plains and Mideast regions registered increases of less than 1.0 percent, the Far West and Rocky Mountain regions had average annual increases of at least 2.0 percent. Among the States, Nevada, Arizona, and Florida registered the highest population gains. These States were also the top three personal income growth States, as mentioned above. The District of Columbia and West Virginia registered population declines from 1950-51 to 1976-77, the only two jurisdictions to do so over the period. Their gains in total personal income over the same timespan ranked 51st and 44th, respectively, among all States. As noted elsewhere, these trends in personal income and population have been accompanied by a convergence in regional per capita income levels.3/

REGIONAL DISTRIBUTION OF PERSONAL INCOME

Table 2.3 lists the shares of total State personal income for each BEA region and State at three points in time: 1950-51, 1963-64, and 1976-77. As indicated by these data, the pattern of change from 1950-51 to 1976-77 is geographically consistent, and rankings are similar in both the earlier and the later intervals. All four northern and eastern regions (New England, Mideast, Great Lakes and Plains) registered declines in their contributions to national total personal income from 1950-51 to 1963-64 and from 1963-64 to 1976-77. Together they accounted for 63 percent of personal income in 1950-51, 60 percent in 1963-64, and 54 percent in 1976-77. Conversely, the four southern and western regions (Southeast, Southwest, Rocky Mountain, and Far West) registered gains in their shares of the national total in both intervals. Together their share rose from 37 percent in 1950-51, to 40 percent in 1963-64, and to 46 percent in 1976-77.

These regional patterns of change, of course, are most influenced by the patterns of the larger States. New York (Mideast) accounted for 12.0 percent of total State personal income in 1950-51, the highest share in the Nation. New York's share fell 3.1 percentage points, to 8.9 percent by 1976-77, ranking second to California's (Far West). Pennsylvania (Mideast) accounted for 7.1 percent of total personal income in 1950-51 and only 5.5 percent in the most recent period.

---

3. See Friedenberg (1978) for a more complete discussion of this.

Table 2.2

Growth of Population by Region, 1950-1977

	1950-51 to 1963-64		1963-64 to 1976-77		1950-51 to 1976-77	
	Value	Rank	Value	Rank	Value	Rank
United States	1.7		1.0		1.3	
BEA Regions						
New England	1.4	7	.8	5	1.1	6
Mideast	1.4	6	.4	8	.9	7
Great Lakes	1.6	4	.7	6	1.1	5
Plains	.8	8	.5	7	.7	8
Southeast	1.4	5	1.3	4	1.4	4
Southwest	2.1	3	1.7	2	1.9	3
Rocky Mountain	2.2	2	1.8	1	2.0	2
Far West	3.4	1	1.6	3	2.5	1
Alabama	.8	39	.7	34	.7	38
Alaska	4.5	4	3.3	1	3.9	4
Arizona	5.5	2	3.1	3	4.3	2
Arkansas	-.1	49	.9	26	.4	45
California	3.9	5	1.5	13	2.7	5
Colorado	3.0	7	2.2	5	2.6	6
Connecticut	2.4	11	.9	27	1.7	14
Delaware	3.2	6	1.3	16	2.3	7
D.C.	-.1	50	-1.1	51	-.6	51
Florida	5.4	3	3.1	4	4.2	3
Georgia	1.5	22	1.3	17	1.4	19
Hawaii	2.2	13	2.1	6	2.2	9
Idaho	1.1	31	1.7	11	1.4	20
Illinois	1.4	25	.5	39	1.0	30
Indiana	1.4	24	.8	33	1.0	29
Iowa	.4	47	.4	44	.4	46
Kansas	1.0	34	.3	45	.7	39
Kentucky	.4	44	.8	32	.6	43
Louisiana	1.7	18	1.0	24	1.4	21
Maine	.6	42	.6	36	.6	42
Maryland	2.8	8	1.4	14	2.1	10
Massachusetts	1.1	32	.5	38	.8	35
Michigan	1.8	16	.9	28	1.3	22
Minnesota	1.3	27	.9	29	1.1	28
Mississippi	.3	48	.4	42	.3	47
Missouri	.8	38	.6	35	.7	37
Montana	1.3	26	.6	37	.9	31
Nebraska	.9	37	.4	43	.6	41
Nevada	7.3	1	3.2	2	5.2	1
New Hampshire	1.6	19	1.9	8	1.8	13
New Jersey	2.2	12	.8	31	1.5	18
New Mexico	2.7	9	1.3	18	2.0	11
New York	1.3	28	.2	47	.7	36
North Carolina	1.2	29	1.1	22	1.1	25
North Dakota	.4	45	.0	49	.2	48
Ohio	1.7	17	.5	40	1.1	27
Oklahoma	.7	40	1.0	23	.9	34
Oregon	1.5	21	1.8	9	1.6	15
Pennsylvania	.7	41	.2	46	.5	44
Rhode Island	.9	35	.4	41	.7	40
South Carolina	1.1	33	1.2	21	1.1	26
South Dakota	.6	43	-.2	50	.2	49
Tennessee	.9	36	1.0	25	.9	32
Texas	2.0	14	1.7	10	1.8	12
Utah	2.6	10	1.9	7	2.2	8
Vermont	.4	46	1.4	15	.9	33
Virginia	1.9	15	1.2	20	1.6	17
Washington	1.6	20	1.6	12	1.6	16
West Virginia	-.8	51	.2	48	-.3	50
Wisconsin	1.4	23	.9	30	1.1	24
Wyoming	1.2	30	1.3	19	1.2	23

Table 2.3

Regional Percent Distribution of Personal Income

	1950-51		1963-64		1976-77	
	Value	Rank	Value	Rank	Value	Rank
United States	100.0		100.0		100.0	
BEA Regions						
New England	6.5	7	6.3	7	5.8	7
Mideast	25.7	1	24.4	1	21.0	1
Great Lakes	22.5	2	21.2	2	19.9	2
Plains	8.7	5	7.7	5	7.5	6
Southeast	15.4	3	16.4	3	19.5	3
Southwest	6.6	6	6.9	6	8.3	5
Rocky Mountain	2.2	8	2.3	8	2.6	8
Far West	12.3	4	14.8	4	15.4	4
Alabama	1.2	26	1.2	24	1.4	23
Alaska	.2	50	.2	51	.3	47
Arizona	.5	38	.7	31	1.0	31
Arkansas	.7	35	.7	35	.8	33
California	8.8	2	11.3	1	11.4	1
Colorado	.9	31	1.0	28	1.2	26
Connecticut	1.7	17	1.8	17	1.6	21
Delaware	.3	47	.3	44	.3	46
D.C.	.7	33	.6	36	.4	41
Florida	1.6	21	2.6	10	3.7	9
Georgia	1.6	20	1.7	19	2.0	17
Hawaii	.3	46	.4	41	.4	38
Idaho	.3	43	.3	45	.3	43
Illinois	7.0	4	6.5	3	5.9	3
Indiana	2.7	10	2.5	11	2.4	11
Iowa	1.7	19	1.3	23	1.3	25
Kansas	1.2	25	1.1	26	1.1	29
Kentucky	1.3	24	1.2	25	1.4	24
Louisiana	1.3	23	1.4	22	1.5	22
Maine	.5	37	.4	39	.4	40
Maryland	1.7	18	1.9	15	2.1	14
Massachusetts	3.3	9	3.1	9	2.8	10
Michigan	4.8	6	4.6	7	4.5	7
Minnesota	1.8	15	1.7	18	1.8	19
Mississippi	.7	34	.7	34	.8	32
Missouri	2.4	11	2.2	12	2.1	15
Montana	.4	39	.3	42	.3	45
Nebraska	.8	32	.7	33	.7	35
Nevada	.1	51	.3	47	.3	44
New Hampshire	.3	45	.3	43	.4	42
New Jersey	4.0	8	4.2	8	3.9	8
New Mexico	.4	42	.4	40	.5	37
New York	12.0	1	11.3	2	8.9	2
North Carolina	1.9	13	1.9	16	2.2	13
North Dakota	.3	44	.3	48	.3	48
Ohio	5.8	5	5.5	5	5.0	6
Oklahoma	1.1	27	1.1	27	1.2	27
Oregon	1.1	28	1.0	29	1.1	28
Pennsylvania	7.1	3	6.1	4	5.5	5
Rhode Island	.6	36	.5	37	.4	39
South Carolina	.9	30	.9	30	1.1	30
South Dakota	.4	41	.3	46	.3	49
Tennessee	1.5	22	1.5	21	1.7	20
Texas	4.6	7	4.7	6	5.7	4
Utah	.4	40	.5	38	.5	36
Vermont	.2	49	.2	49	.2	51
Virginia	1.9	14	2.0	14	2.3	12
Washington	1.8	16	1.7	20	1.8	18
West Virginia	.9	29	.7	32	.7	34
Wisconsin	2.3	12	2.1	13	2.1	16
Wyoming	.2	48	.2	50	.2	50

The shares of Illinois and Ohio (Great Lakes) registered declines of about 1.0 percentage point, to 5.9 and 5.0 percent, respectively.

California's share during this timespan rose from 8.8 percent in 1950-51 (ranking second in the Nation) to 11.4 percent in 1976-77 (ranking first). Texas (Southwest) and Florida (Southeast), the most populous States in their respective regions, registered relatively large gains of 1.1 and 2.1 percentage points, to 5.7 and 3.7 percent, respectively. Texas' ranking improved from 7th in the Nation to 4th, and Florida's, from 21st to 9th.

In summary, it has been shown that the growth in economic activity has been faster in the South than the North, in the West than the East, and in the small States than the large States, resulting in a greater geographic dispersion of economic activity. Questions arise as to what changes in the industrial composition of regional economies also have taken place, and how much of the overall growth trends has been caused by the differences in the regional industrial bases? Using industry earnings (labor and proprietors income by place of work) data as a basis, the next section will examine these questions.

INDUSTRIAL COMPOSITION OF REGIONAL ECONOMIC ACTIVITY

Tables in this section present data describing the industrial composition of current-dollar earnings in 1950-51, 1963-64, and 1976-77, for the Nation, the 8 BEA regions, and the 50 States and the District of Columbia. Also presented in each table is the difference between the percentage of earnings by industry in the region and that in the Nation. In the discussion, when the region registers a higher percentage of earnings than the Nation in a particular industry, it is said to have a relative advantage in that industry. Conversely, when the regional industry registers a lower percentage than the Nation, it is said to have a relative disadvantage. The size of the advantage or disadvantage is measured by the difference in the regional and national percentages. For a particular region, when the absolute values of the advantages and disadvantages are summed over the industries, a measure of industrial specialization is obtained. The bounds of the coefficient of specialization are 0 and 200, with larger values indicating that the region in question has relatively more concentrated industries than in another region with a lower value.4/ Both of these measures, the relative advantage (disadvantage) and the coefficient of specialization, will be used in this section to analyze regional industrial patterns.

---

4. The coefficient of specialization is defined mathematically as:

$$S = 100 * \sum_i \left| \frac{E_i^r}{E^r} - \frac{E_i^n}{E^n} \right|$$

where:

S	is the coefficient of specialization
E	is earnings
i	is the industry
r	is the region
n	is the Nation

As indicated in table 2.4, the structure of the U.S. economy has changed significantly over the 26-year study period. Rapid and significant productivity advances in the agriculture industry and the displacement of workers have decreased the share of earnings of persons in the agriculture, forestry, and fisheries industry from 9.1 percent of total earnings in 1950-51 to 2.6 percent in 1976-77. Mining industry earnings fell from 2.0 percent of total earnings in 1950-51 to 1.2 percent in 1963-64, and rose slightly to 1.5 percent in 1976-77. This recent shift in the mining industry resulted from the increased emphasis on the development of domestic energy sources. Productivity advances in the construction and manufacturing industries were partially responsible for the share of earnings in both these industries dropping from 6.1 percent of total earnings to 5.9 percent and from 29.4 percent to 26.1 percent, respectively, from 1950-51 to 1976-77. Growth in the highly labor-intensive industries of the private-service sector and government has caused their share of total earnings to rise dramatically. Private-service sector earnings rose from 41.6 percent of the total in 1950-51 to 46.5 percent in 1976-77, while government earnings rose from 11.7 percent to 17.4 percent.

The New England region (table 2.5) was heavily concentrated in manufacturing in 1950-51. However, that concentration, relative to the Nation's, has lessened since then as many older New England plants have been replaced by plants in the low-wage, less union-oriented South. The agriculture-forestry-fisheries disadvantage has narrowed over the total period, primarily due to a relative decline in the Nation. Private services registered a slight disadvantage in 1950-51 and 1963-64, but advances in all States, particularly Massachusetts', gave the region a slight advantage in 1976-77. Comparing the measure of regional specialization for 1950-51 with that of 1976-77, the New England region's specialization coefficient decreased from 22.8 to 12.8. This indicates that the region's industrial structure has become more similar to that of the Nation's over time. Finally, there has been no appreciable concentration of either slow-or fast-growing industries to affect this region's overall growth during the period.

The Mideast region (table 2.6) was also relatively concentrated in manufacturing in 1950-51. By 1976-77, however, the region had a disadvantage in manufacturing mainly due to strong relative declines in New York and New Jersey. The region continued to have a more prominent private-services sector in 1976-77 as in 1950-51, mainly due to the continued importance of the financial and trade industries in New York. As noted earlier, the Mideast experienced very slow population growth over the period, resulting in a declining construction industry as compared with the national average. Strong increases in the government sector in all six States resulted in a relatively larger government sector in 1976-77 than that nationally. Overall, the Mideast region's industrial composition converged toward the national average (become less specialized) over the period. Specifically, the coefficient of specialization dropped from 15.6 in 1950-51 to 8.8 in 1976-77. Like that in the New England region, the industrial composition of the Mideast is not substantially different from the Nation's. The historically low overall growth record of this region would seem more a result of resource and socio-economic factors than of industrial composition.

The Great Lakes region (table 2.7) was heavily manufacturing-oriented in 1950-51 and that concentration continued to 1976-77, even growing slightly over the interval. During this same timespan the small agriculture sector declined in prominence, although not as much as nationally. While both the private-service sector and government sector grew at proportionately higher rates than other sectors in all five States, the regional disadvantage in both sectors increased over the period. The Great Lakes industrial composition remained relatively constant over the period, the coefficient of specialization declining slightly, from 23.1 in 1950-51 to 22.1 in 1976-77. The high concentration of the slow-growth manufacturing sector seems to be a prominent reason for the relative economic decline of the Great Lakes region.

The Plains region (table 2.8) was heavily concentrated in the agriculture sector in 1950-51. In particular, for both North and South Dakota agriculture accounted for a larger share of the States' earnings than did any of the other sectors. From 1950-51 to 1976-77, however, agriculture-sector earnings declined from 23.3 to 6.1 percent of the region's total, although still remaining well above the Nation's 2.6-percent average. While manufacturing's share of the national economy declined from 1950 to 1977, its share in the Plains region registered an

Table 2.4

Industry Earnings as a Percent of Total Earnings:
United States

	1950-51	1963-64	1976-77
Agriculture, Forestry, and Fisheries	9.1	4.3	2.6
Mining	2.0	1.2	1.5
Contract Construction	6.1	6.0	5.9
Manufacturing	29.4	29.3	26.1
Private Services	41.6	43.7	46.5
Government	11.7	15.5	17.4

Table 2.5

Industry Earnings as a Percent of Total Earnings: New England Region

	New England Region			United States			Difference		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	3.5	1.5	1.1	9.1	4.3	2.6	-5.6	-2.8	-1.5
Mining	.1	.1	.1	2.0	1.2	1.5	-1.9	-1.1	-1.4
Contract Construction	5.7	6.0	4.8	6.1	6.0	5.9	-.4	.0	-1.1
Manufacturing	40.9	35.9	31.0	29.4	29.3	26.1	11.4	6.6	4.9
Private Sector Services	38.7	42.9	48.0	41.6	43.7	46.5	-2.9	-.9	1.5
Government	11.1	13.6	15.1	11.7	15.5	17.4	-.6	-1.9	-2.4

STATES

	Connecticut			Maine			Massachusetts		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	3.0	1.2	.8	10.3	5.5	4.0	2.1	1.0	.7
Mining	.1	.1	.2	.1	.1	.1	.1	.1	.1
Contract Construction	6.2	6.4	4.5	5.2	5.6	7.2	5.9	5.8	4.3
Manufacturing	47.6	43.0	36.5	34.9	30.7	26.7	38.5	33.1	28.2
Private Sector Services	35.9	39.5	45.6	35.4	37.7	42.9	41.4	46.0	51.1
Government	7.2	9.8	12.3	14.1	20.4	19.2	12.0	14.0	15.6

	New Hampshire			Rhode Island			Vermont		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	5.0	1.3	.9	1.6	.8	.6	15.1	6.2	4.4
Mining	.2	.2	.2	.0	.1	.1	.9	.9	.5
Contract Construction	4.8	6.2	6.5	5.1	5.9	4.5	4.3	6.4	6.1
Manufacturing	41.8	37.1	32.1	43.9	34.5	33.2	31.5	28.2	27.4
Private Sector Services	36.6	40.4	45.2	34.9	39.7	44.0	37.5	44.5	45.5
Government	11.5	14.8	15.1	14.3	19.0	17.6	10.7	13.8	16.2

Table 2.6

Industry Earnings as a Percent of Total Earnings: Mideast Region

	Mideast Region			United States			Difference		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	2.5	1.2	.8	9.1	4.3	2.6	-6.6	-3.1	-1.8
Mining	1.4	.5	.6	2.0	1.2	1.5	-.5	-.7	-.9
Contract Construction	5.7	5.6	4.5	6.1	6.0	5.9	-.4	-.4	-1.4
Manufacturing	33.9	31.2	25.8	29.4	29.3	26.1	4.5	1.9	-.3
Private Sector Services	45.0	47.1	50.1	41.6	43.7	46.5	3.3	3.3	3.6
Government	11.5	14.5	18.3	11.7	15.5	17.4	-.3	-1.0	.8

STATES

	Delaware			District of Columbia			Maryland		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	7.8	3.2	2.8	.4	.4	.3	4.6	1.8	1.2
Mining	.0	.0	.2	.0	.0	.0	.3	.3	.1
Contract Construction	7.4	6.9	6.3	4.6	4.4	2.7	8.8	7.4	6.7
Manufacturing	42.0	42.8	39.2	4.3	3.9	2.9	28.6	25.0	17.0
Private Sector Services	34.2	34.2	36.3	41.0	41.0	39.9	41.1	42.5	47.6
Government	8.7	12.8	15.2	49.6	50.2	54.1	16.7	23.1	27.3

	New Jersey			New York			Pennsylvania		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	2.6	1.0	.6	2.1	1.0	.7	2.9	1.4	1.1
Mining	.3	.2	.1	.2	.2	.2	4.7	1.4	1.7
Contract Construction	6.8	6.4	4.5	5.1	5.3	3.4	5.6	5.2	5.6
Manufacturing	41.9	37.5	30.5	32.0	28.0	22.9	39.1	38.8	33.5
Private Sector Services	39.6	42.9	48.6	50.8	52.7	56.1	39.4	41.8	44.6
Government	8.8	12.0	15.7	9.8	12.8	16.7	8.2	11.3	13.6

Table 2.7

Industry Earnings as a Percent of Total Earnings: Great Lakes Region

	Great Lakes Region			United States			Difference		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	6.6	3.0	2.3	9.1	4.3	2.6	-2.5	-1.3	-.4
Mining	1.0	.6	.8	2.0	1.2	1.5	-.9	-.6	-.7
Contract Construction	5.5	5.5	5.2	6.1	6.0	5.9	-.6	-.5	-.6
Manufacturing	41.0	40.2	37.1	29.4	29.3	26.1	11.6	10.9	11.1
Private Sector Services	37.9	39.5	41.5	41.6	43.7	46.5	-3.7	-4.2	-4.9
Government	7.9	11.1	13.1	11.7	15.5	17.4	-3.8	-4.4	-4.4

STATES

	Illinois			Indiana			Michigan		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	6.6	3.2	2.3	10.0	4.4	3.5	4.2	2.0	1.2
Mining	1.5	.8	1.0	1.1	.6	.7	.7	.5	.5
Contract Construction	5.4	5.8	5.6	5.2	5.7	5.6	5.4	4.9	4.4
Manufacturing	34.7	33.8	30.1	41.8	42.7	40.9	48.2	46.2	43.3
Private Sector Services	43.5	45.4	47.7	34.6	35.8	37.6	33.9	35.1	36.9
Government	8.3	11.1	13.3	7.4	10.7	11.8	7.6	11.3	13.7

	Ohio			Wisconsin		
	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	4.6	2.0	1.6	13.0	5.5	4.7
Mining	1.0	.6	1.0	.3	.2	.2
Contract Construction	5.8	5.4	5.2	5.8	5.9	5.7
Manufacturing	43.5	42.2	38.8	37.5	38.6	35.2
Private Sector Services	37.1	38.7	40.9	35.6	38.1	40.5
Government	8.0	11.0	12.5	7.8	11.5	13.8

Table 2.8

Industry Earnings as a Percent of Total Earnings: Plains Region

	Plains Region			United States			Difference		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	23.3	11.0	6.1	9.1	4.3	2.6	14.2	6.8	3.4
Mining	1.3	1.0	1.0	2.0	1.2	1.5	-.7	-.2	-.5
Contract Construction	5.6	6.2	6.5	6.1	6.0	5.9	-.5	.2	.6
Manufacturing	18.6	22.7	23.0	29.4	29.3	26.1	-10.9	-6.6	-3.1
Private Sector Services	41.6	44.7	47.5	41.6	43.7	46.5	-.1	1.0	1.0
Government	9.7	14.3	16.0	11.7	15.5	17.4	-2.0	-1.2	-1.5

STATES

	Iowa			Kansas			Minnesota		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	33.5	17.9	8.1	21.6	11.3	5.6	18.4	7.6	6.5
Mining	.3	.4	.3	3.6	2.3	2.3	2.0	1.5	1.3
Contract Construction	4.9	5.4	6.9	6.4	5.9	6.7	5.8	6.5	6.3
Manufacturing	17.4	23.3	26.4	16.5	20.5	21.4	20.9	24.1	24.1
Private Sector Services	36.6	41.0	44.0	39.8	41.7	46.4	43.8	46.9	47.1
Government	7.3	12.0	14.3	12.0	18.3	17.5	9.2	13.4	14.8

	New Jersey			New York			Pennsylvania		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	12.6	5.6	2.7	31.1	14.9	7.7	42.2	24.1	10.8
Mining	.8	.5	.6	.3	.5	.4	.7	1.1	2.0
Contract Construction	5.7	6.2	5.7	5.3	6.3	7.4	5.9	8.5	9.5
Manufacturing	25.4	28.3	26.2	10.6	15.1	16.1	3.0	4.0	7.1
Private Sector Services	46.1	46.8	49.5	41.3	46.3	50.5	37.4	42.2	48.1
Government	9.5	12.5	15.2	11.3	17.0	18.0	10.8	20.2	22.4

	South Dakota		
	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	43.1	22.7	13.9
Mining	1.1	1.5	1.6
Contract Construction	5.9	6.4	6.9
Manufacturing	5.2	7.7	9.9
Private Sector Services	32.5	41.2	46.4
Government	12.1	20.4	21.3

increase. By 1976-77, the regional manufacturing disadvantage had decreased from 11 to 3 percentage points, with manufacturing accounting for 23 percent of total earnings in the region. In all other sectors, regional shares remained almost constant relative to the Nation's. Because of declines in the agriculture advantage and declines in the manufacturing disadvantage, the region's industrial composition converged toward the national average over the period. The coefficient of specialization diminished substantially, from 28.4 in 1950-51 to 10.1 in 1976-77. Overall, the prominence of the slow-growing agriculture sector and the increase in prominence of the manufacturing sector contributed to the weak historical performance of this region.

The Southeast region (table 2.9) had a relative disadvantage in manufacturing in 1950-51, which slowly declined to a much smaller disadvantage by 1976-77, due to strong increases in manufacturing in Mississippi and Arkansas. The region's agricultural advantage in the earlier period nearly disappeared by 1976-77. The strongest growth was in the private-services sector, all 12 States in the region registering relative advances. Except for a small variation in the construction sector, the other five regional sectors registered shares converging toward national averages. In 1950-51, the region's coefficient of specialization was 19.4; by 1976-77, the coefficient had declined to 8.0. Rather than inhibiting the overall growth as in some regions, the rapid increase in the manufacturing sector seems to have promoted the growth of the Southeast. No other industrial factor seems to account for the very high historical growth of this region.

The Southwest region (table 2.10) had a strong disadvantage in manufacturing in 1950-51. While nationally the prominence of manufacturing declined during the 26-year study period, the Southwest registered relative manufacturing gains in all States, narrowing its disadvantage appreciably by 1976-77. Mining advantages in the region's four States declined during the study period, although the region's mining share was still three times the Nation's in 1976-77. Agriculture earnings, which accounted for between 14 and 20 percent of total earnings in the four States in 1950-51, declined to only 2.6 percent of total earnings in 1976-77, the same as the national average. Except for a small variation in the construction sector, all other regional industry shares converged toward national averages. While in 1950-51, the Southwest region's coefficient of specialization was 32.4, it had declined to 15.8 by 1976-77. It appears that overall growth in the Southwest has benefited from manufacturing.

The Rocky Mountain region (table 2.11) had an extremely large disadvantage in manufacturing in 1950-51, as its five States had manufacturing shares that were less than one-half that of the Nation. Although the gap narrowed somewhat over the 26-year period, by 1976-77 manufacturing still accounted for only 15.1 percent of total regional earnings, compared with the Nation's 26.1-percent average. The region's prominent agriculture-sector advantage in the early 1950's (particularly in Montana) declined rapidly so that by 1976-77 the regional agriculture share of 3.5 percent led the Nation's by less than one percentage point. The region's large mining advantage continued over the entire period, expanding somewhat in the late 1970's, as domestic energy development received more emphasis. Mining expansion was particularly large in Wyoming: by 1976-77 mining earnings accounted for one-fifth of the State's total. Because of the declines in the agriculture advantage and the declines in the manufacturing disadvantage, the Rocky Mountain region's industrial composition converged toward the national average over the period. The coefficient of specialization decreased from 35.6 in 1950-51 to 22.1 in 1976-77. There is no indication, however, that the composition of industries played a role in the historically slow growth of this region. The strong influence of agriculture and mining could, however, play an important role in the future.

The Far West region (table 2.12) had slight private-services sector and government sector advantages in 1950-51. While most States in the Far West registered gains in these sectors from 1950 to 1977, growth rates lagged national counterparts, contributing to slightly smaller advantages in 1976-77. The agriculture, mining, and construction sectors had shares close to national counterparts in both 1950-51 and 1976-77. The relative manufacturing disadvantage in this region declined somewhat over the period even though Alaska, Nevada, and Hawaii retained their small manufacturing sectors in 1976-77. Like those in other regions, the Far West's industrial composition converged toward the national average over the 26-year period. The coefficient of specialization decreased from 19.8 in 1950-51 to 13.4 in 1976-77. The relative

Table 2.9

Industry Earnings as a Percent of Total Earnings: Southeast Region

	Southeast Region			United States			Difference		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	14.5	7.2	3.2	9.1	4.3	2.6	5.4	2.9	.6
Mining	3.6	1.9	2.4	2.0	1.2	1.5	1.7	.7	.9
Contract Construction	6.2	6.0	6.5	6.1	6.0	5.9	.1	.0	.6
Manufacturing	22.1	24.5	24.0	29.4	29.3	26.1	-7.3	-4.8	-2.1
Private Sector Services	39.2	41.7	44.5	41.6	43.7	46.5	-2.4	-2.0	-1.9
Government	14.2	18.7	19.4	11.7	15.5	17.4	2.5	3.2	1.9

STATES

	Alabama			Arkansas			Florida		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	13.6	6.6	3.1	28.6	17.9	8.5	10.6	6.0	3.0
Mining	3.0	1.1	1.7	2.0	1.1	1.1	.8	.6	.4
Contract Construction	5.3	5.3	6.8	6.5	5.9	6.5	8.6	7.8	6.9
Manufacturing	26.5	27.4	27.9	14.4	21.3	26.8	10.6	14.6	13.0
Private Sector Services	38.2	38.6	40.2	37.2	39.3	41.6	52.7	52.3	56.7
Government	13.5	20.9	20.2	11.2	14.5	15.4	16.8	18.9	20.0

	Georgia			Kentucky			Louisiana		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	13.6	6.5	2.5	16.2	8.6	4.5	11.9	6.0	2.6
Mining	.4	.4	.4	8.3	3.8	6.9	5.3	6.4	7.4
Contract Construction	5.4	5.1	5.2	6.8	6.6	6.2	7.2	7.2	9.8
Manufacturing	24.1	25.5	24.1	19.9	24.2	26.2	18.1	18.2	17.4
Private Sector Services	41.5	42.9	48.3	36.7	39.7	39.5	44.8	45.6	47.0
Government	14.9	19.6	19.5	12.0	17.1	16.6	12.6	16.6	15.8

	Mississippi			North Carolina			South Carolina		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	12.5	5.5	2.6	10.3	3.3	1.3	5.2	1.5	.4
Mining	1.4	.6	.7	2.1	1.1	1.6	24.9	12.5	17.3
Contract Construction	7.4	5.6	5.7	5.9	6.7	6.6	4.2	4.8	7.0
Manufacturing	25.7	30.8	30.6	19.9	21.6	19.8	24.2	30.7	24.0
Private Sector Services	40.8	42.0	43.9	37.7	39.7	42.5	33.6	38.1	37.2
Government	12.2	15.4	16.5	24.0	27.6	28.2	8.0	12.4	14.0

	Tennessee			Virginia			West Virginia		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	12.5	5.5	2.6	10.3	3.3	1.3	5.2	1.5	.4
Mining	1.4	.6	.7	2.1	1.1	1.6	24.9	12.5	17.3
Contract Construction	7.4	5.6	5.7	5.9	6.7	6.6	4.2	4.8	7.0
Manufacturing	25.7	30.8	30.6	19.9	21.6	19.8	24.2	30.7	24.0
Private Sector Services	40.8	42.0	43.9	37.7	39.7	42.5	33.6	38.1	37.2
Government	12.2	15.4	16.5	24.0	27.6	28.2	8.0	12.4	14.0

Table 2.10

Industry Earnings as a Percent of Total Earnings: Southwest Region

	Southwest Region			United States			Difference		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	14.9	6.6	2.6	9.1	4.3	2.6	5.8	2.3	-.1
Mining	7.3	5.5	5.6	2.0	1.2	1.5	5.4	4.3	4.1
Contract Construction	7.4	6.4	7.8	6.1	6.0	5.9	1.3	.4	1.9
Manufacturing	13.3	17.2	18.3	29.4	29.3	26.1	-16.2	-12.2	-7.8
Private Sector Services	42.8	44.9	47.1	41.6	43.7	46.5	1.2	1.2	.7
Government	14.2	19.4	18.6	11.7	15.5	17.4	2.5	3.9	1.2

STATES

	Arizona			New Mexico			Oklahoma		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	20.7	7.1	3.6	17.0	6.9	3.5	14.2	6.5	2.5
Mining	6.0	4.7	4.4	8.6	7.4	8.6	9.5	7.6	8.3
Contract Construction	7.0	8.3	7.5	9.2	7.3	7.8	6.4	5.8	6.2
Manufacturing	7.0	14.6	15.4	6.4	6.3	6.9	11.7	14.8	17.7
Private Sector Services	42.9	44.9	46.1	38.6	43.5	44.4	42.7	43.9	45.1
Government	16.4	20.4	22.9	20.2	28.6	28.8	15.5	21.3	20.2

	Texas		
	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	14.3	6.4	2.4
Mining	6.8	5.0	5.0
Contract Construction	7.6	6.2	8.1
Manufacturing	14.8	19.1	19.8
Private Sector Services	43.2	45.3	47.9
Government	13.2	18.0	16.8

Table 2.11

Industry Earnings as a Percent of Total Earnings: Rocky Mountain Region

	Rocky Mountain Region			United States			Difference		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	19.5	7.5	3.5	9.1	4.3	2.6	10.4	3.3	.9
Mining	4.9	3.6	4.9	2.0	1.2	1.5	2.9	2.4	3.4
Contract Construction	7.5	7.5	8.3	6.1	6.0	5.9	1.3	1.5	2.4
Manufacturing	11.6	15.6	15.1	29.4	29.3	26.1	-17.8	-13.7	-11.0
Private Sector Services	42.3	44.7	46.9	41.6	43.7	46.5	.7	1.0	.5
Government	14.2	21.1	21.3	11.7	15.5	17.4	2.5	5.5	3.9

STATES

	Colorado			Idaho			Montana		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	13.8	4.5	2.5	26.0	15.3	7.9	31.4	15.7	6.9
Mining	2.7	2.4	3.4	3.5	1.9	1.3	5.7	4.1	3.7
Contract Construction	7.9	7.4	7.2	7.5	6.7	9.1	6.4	7.4	8.2
Manufacturing	13.8	16.6	16.1	12.5	15.7	18.4	8.0	10.9	10.8
Private Sector Services	46.4	47.6	49.1	39.3	42.7	45.0	37.7	41.8	48.4
Government	15.4	21.6	21.7	11.2	17.6	18.2	10.8	20.2	22.0

	Utah			Wyoming		
	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	11.0	2.5	1.6	24.0	9.3	2.4
Mining	6.9	4.7	5.0	10.2	10.0	20.9
Contract Construction	7.5	7.1	8.8	7.7	10.4	12.3
Manufacturing	13.4	19.8	16.7	5.4	7.7	5.7
Private Sector Services	42.6	43.3	45.1	39.8	41.0	39.6
Government	18.6	22.6	22.8	13.0	21.6	19.1

Table 2.12

Industry Earnings as a Percent of Total Earnings: Far West Region

	Rocky Mountain Region			United States			Difference		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	8.7	4.0	3.6	9.1	4.3	2.6	-.4	-.2	1.0
Mining	.9	.6	.6	2.0	1.2	1.5	-1.1	-.6	-.9
Contract Construction	7.6	7.0	6.5	6.1	6.0	5.9	1.5	1.0	.6
Manufacturing	21.0	23.9	20.2	29.4	29.3	26.1	-8.4	-5.4	-5.8
Private Sector Services	45.4	45.7	49.0	41.6	43.7	46.5	3.8	2.0	2.5
Government	16.3	18.8	20.0	11.7	15.5	17.4	4.6	3.3	2.6

STATES

	California			Nevada			Oregon		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	8.1	3.8	3.7	12.0	1.5	1.2	11.0	4.9	3.5
Mining	1.0	.6	.6	4.7	2.1	1.6	.4	.3	.2
Contract Construction	7.4	7.0	5.5	7.8	12.0	8.7	7.5	6.9	6.6
Manufacturing	20.9	24.8	21.1	5.8	4.6	5.0	27.5	25.5	25.4
Private Sector Services	47.2	46.0	49.5	52.4	63.7	65.4	43.8	46.7	47.5
Government	15.4	17.9	19.6	17.3	16.0	18.1	9.8	15.7	16.9

	Washington			Alaska			Hawaii		
	50-51	63-64	76-77	50-51	63-64	76-77	50-51	63-64	76-77
Agriculture, Forestry and Fisheries	9.5	4.9	4.2	5.8	3.3	1.1	12.4	7.9	3.5
Mining	.4	.2	.2	2.7	1.9	3.5	.1	.0	.0
Contract Construction	7.5	6.0	7.3	23.0	9.9	27.9	5.1	7.9	7.4
Manufacturing	22.6	26.0	21.7	8.3	6.7	4.7	8.7	8.5	5.8
Private Sector Services	42.2	43.2	45.9	19.0	31.2	37.6	34.5	40.1	50.4
Government	17.8	19.8	20.6	41.2	47.1	25.2	39.2	35.6	32.8

disadvantage in the nationally slow-growing manufacturing sector and the relative advantage in the nationally fast-growing services and government sectors have aided the growth of the Far West.

A SUMMARY OF REGIONAL TRENDS

From 1950-51 to 1976-77, the regions under study have generally exhibited substantially different growth trends, some of which can be attributed to differences in the importance of manufacturing. Specifically, the fast-growing regions over the entire period (Southeast, Southwest, Rocky Mountain, and Far West) were generally those with large manufacturing sector disadvantages in 1950-51 that grew smaller by 1976-77. The opposite was generally true for the slow-growing regions (New England, Mideast, Great Lakes, and Plains), where manufacturing advantages declined over the period.

Further, the regions have generally shown a convergence of their industrial compositions toward national averages. Specifically, in 1950-51 only the Mideast, Southeast, and Far West regions had coefficients of specialization of less than 20. By 1976-77, only the Great Lakes and Rocky Mountain regions had coefficients of more than 20.

Chapter 3

REGIONAL MODELING TECHNIQUES

Over the past decade, the complexity of the economic and legislative environment has steadily increased. The large lead time between investment decisions and implementation in both public and private sectors has heightened the need for forecasts of regional economic conditions. The new Federal requirements for Environmental Impact Statements (EIS), Urban Impact Statements (UIS), and other government regulations have substantially increased the need for regional impact analysis. Regional forecasting and impact models have been developed primarily to help meet these demands. Regional models are rapidly becoming an important analytical tool available to planners. Usually they have been developed along one of three spatial configurations: single-region, multiregion subnational, and multiregion national.

MODELS FOR A SINGLE REGION

Because of their simplicity and flexibility, single-region models were the first type of regional model developed. Almost all single-region models are structured around the basic formula shown in matrix notation in equation 3.1:

$$^{r}X = A\,^{r}X + B\,N \tag{3.1}$$

In single-region models, the vector of regional economic and demographic variables, ^{r}X, is first expressed as a function of the local explanatory variables, $A^{r}X$, where A is a matrix of coefficients relating the activities of one local sector to those of other local sectors. The second set of explanatory factors are the exogenous variables, BN, where B is a matrix of coefficients and N is a set, computed apart from the regional model, of regional final demands and/or national economic activity.

Within the single-region category of models, the two most common approaches are econometric and input-output (I-O). As compared to I-O, the econometric approach has the advantages of smaller data requirements and its dynamic (rather than static) characteristics. The earliest econometric models were relatively small. For example, one of the first econometric models, the Philadelphipa SMSA model (Glickman, 1971), contained only 17 behavioral equations. Variables included gross regional product, personal income, population, and unemployment rates, all at relatively aggregate levels. Later models have kept the same general structure and variable types, but applied a much more sophisticated and disaggregated analysis. The current Philadelphia model (Glickman, 1977), for instance, has 105 behavioral equations and distinguishes between central-city and suburban growth. Other large single-region models include those for Houston (Schuler and Thomas, 1978), Tennessee (Gustely, 1978), and Massachusetts (Treyz et al., 1977).

Single-region I-O models are not as prevalent as the econometric ones, but are favored by those primarily interested in interindustry analysis. The advantage of the I-O approach is the far greater potential for detailed industry disaggregation. Even the smaller survey tables, including those for Washington State (Tiebout, 1969), Kansas (Emerson, 1969), and West Virginia (Miernyk, 1970), normally contain from 50 to 80 industries at the 2-digit Standard Industrial Classification (SIC) level. The larger tables, such as those for Philadelphia (Isard, Langford, and Romanoff, 1967) and Texas (Texas Department of Water Resources, 1978), have over 100 4-digit SIC industries.

Two disadvantages of the I-O methodology are its lack of flexibility and the difficulty in obtaining survey data. Unlike econometric models, I-O models cannot be easily adapted to include many socio-economic variables, such as the unemployment rate, or demographic variables, such as

population levels. The lack of available data, however, is the largest problem faced by regional I-O models, since the construction of survey-based tables is relatively expensive. Accordingly, Stevens and Trainer (1976) and Garnick (1970) have proposed the use of nonsurvey tables (i.e., those based on national tables) as a way to circumvent these data problems. Nonsurvey I-O techniques have been applied, for example, in Georgia (Schaffer, 1976) and for counties within the United States (Drake, 1976 and Cartwright, 1979). In addition to the use of nonsurvey techniques, I-O models have sometimes been linked to econometric models to increase their flexibility. Although still in their infancy, these 'hybrid' models have been developed for Ohio (L'Esperance, 1980) and for Washington State (Conway, 1979).

While single-region models are useful tools for economic and demographic planning, they do have several significant limitations. First, they are not applicable when the geographic configuration of the model does not coincide with the region to be studied. For instance, Federal policies often produce a wide range of spatial effects that transcend specific State or SMSA boundaries, and thus, these effects cannot be captured by a model of one of these regions. Second, individual equations in single-region econometric models have sometimes been misspecified in that they may not reflect existing regional theory (Engle, 1974 and Crow, 1979). For instance, it is difficult to specify an investment sector in a single-region model since interregional information should be incorporated. Third, since the national models that produce forecasts of exogenous variables for single-region models often incorrectly forecast economic activity, regional forecasts derived from them tend to have compounded errors.

More important than the problems noted above, perhaps, is that single-region models omit consideration of economic events in a multiregional context. Single-region models cannot integrate the analysis of economic activity of the region under study with that in neighboring regions and thus must treat all other regions as the "rest of the world." Although the relationship to other regions is always conceptually identified, the empirical work cannot reflect the interrelationships among all the regions within a nation's regional system. As a result, economic flows between regions, due to changes in one specific region, cannot be captured within the analysis. This problem is likely to be severe since a simple comparison of regional and national multipliers suggests that the impact outside the region can be as large as or larger than the impact inside the region. Finally, even if single-region models were available for each of the regions in the country, there would be no way of insuring consistent forecasts of national activity. Because these individual single-region models are not linked to one another, the summation of forecasts across all regions would not necessarily result in reasonable national totals.

SUBNATIONAL MULTIREGION MODELS

To address many of the criticisms of single-region models described above, recent modeling efforts have focused upon multiregion models. By specifically estimating the relationships among regions, more complete estimates of regional economic activity can be obtained. In addition, the range of policy applications is expanded with multiregion models, since it is possible to focus on questions involving policies that may differentially affect the regions.

The structure of most multiregional models is shown in matrix notation in equation 3.2:

$$^{r}X = A\,^{r}X + B\,N + C\,^{r}G \qquad (3.2)$$

The ^{r}X, $A\,^{r}X$, and BN are the same terms and have the same purpose as those in equation 3.1. The added term, $C\,^{r}G$, is the interregional element, where C is a matrix of coefficients and ^{r}G a vector or matrix that relates the activites among different regions.

Many of the first attempts to model an interregional system were at the subnational level. Subnational 1/, multiregion econometric models have been employed for the Northeast Corridor(Crow, 1973 and Putnam, 1975), for the Delaware Valley (Ballard and Glickman, 1977), and for Massachusetts (Treyz, et al., 1978). A multiregional model for the Colorado area (Miernyk, et al., 1965) was developed using an I-O methodology.

This multiregional approach is an improvement over single-area modeling in that the scope and usually the size of the regional system is increased. This, in turn, makes possible the analysis of multiple spatial units. However, subnational models are limited, since they still operate in an "open" economic system. While an impact can be measured in an adjacent region within the model, the extra-regional impact (the rest of the Nation) is still ignored.

NATIONAL MULTIREGION MODELS

The focus of a national multiregion model is to produce comprehensive coverage of all regions within a country. This may be done by simply adding the constraint of equation 3.3 to the equation 3.2 system:

$$^{x}N = \sum_{r} {}^{r}X \tag{3.3}$$

In equation 3.3, the values of regional variables ^{r}X are summed to national totals. The ^{x}N vector now becomes a subset of N, and CG now becomes endogenous. This integrates the regional with the national analysis. The national explanatory variables used to derive the regional estimates now, in effect, are linked to those regional estimates. With the regional and national models integrated, this approach produces estimates of economic activity for each region that are comparable with the Nation.

Given the structural definition common to all national multiregion models, there can still be quite a diversity in the techniques used for the empirical analysis. The Multiregion Input-Output Model (MRIO) (Polenske, 1980) expresses interregional linkages in an I-O framework. Golladay and Haveman (1977) used MRIO as one of the five modules in a large-scale microsimulation model that Hollenbeck (1980) extended further. Harris (1973) used cross-sectional econometric relationships employing a national I-O table and national control totals to allocate economic activity among 3,111 "county-type" areas. Olsen, et al. (1977) have produced a multiregion econometric model based on BEA economic areas, using pooled cross-section data with transportation time indexes linking the regions. Milne, Glickman, and Adams (1978) have constructed a time series multiregion model for the nine Census districts within the United States.

In analyzing the multiregion approach, it is useful to distinguish between two types of models: "top-down" and "bottom-up." The first type, the more common of the two, takes national control totals as projected by a national model and distributes economic activity to the component regions. Accordingly, national variables (the "top") are used to determine regional activity (the "bottom"). Shares of national economic activity are typically allocated to the regions based upon measures of relative regional attractiveness, such as accessibility and input costs. These models have been employed to analyze the effects on the various regions of both changes in national policy and region-specific events. In the more sophisticated versions of these models, there are linkages among the regions within the system. Thus, the top-down model still has the same unidirectional focus (national to regional) as its single-region predecessors. Examples of this approach include the Milne, Glickman, and Adams (1978), Harris (1973), and Olsen, et al. (1977) models.

---

1. In this monograph, subnational is defined as any combination of regions with a coverage of less than the entire United States. This is in contrast to national, which is defined as the coverage of all areas in the United States.

There are two characteristics of top-down models that can produce misleading results at both the national and regional level. First, by modeling a control total at the national level, top-down models do not consider the effects of changing regional conditions on the national economy. For example, if a national policy produced spatial shifts in Federal spending among regions, and the level of Federal Government spending remained the same, the national results of a top-downmodel would be unaffected. Such models could not be used to determine the extent to which this spatial reallocation of expenditures will affect the level of national economic activity. Given differences in capacity utilization and employee productivity across regions, it is likely that the failure to consider this effect could seriously bias the resulting impact estimates. This is a particular problem when the top-down model is used in short-run as opposed to long-run impact analysis, since capacity utilization and employee productivity are more likely to vary regionally in the former as opposed to the latter case.2/

A second characteristic of top-down models can produce misleading results at the regional level. Specifically, even if the national control totals are correct, regional totals may be in error because the regional share equations are constrained. For example, if the sum of regional share equations predicted by a top-down model does not equal 100 percent, these shares must somehow be adjusted in order to account for all national economic activity. Since the manner of this adjustment is theoretically unclear, the potential for error exists. Given the existence of regional differentials in the speed and phasing of adjustment to business cycles, it is probable that the share of some regions should be increased more than proportionately, and that of other regions, less than proportionately. This issue is particularly important, since regional cycles have been found to differ in terms of timing, duration, and amplitude.3/

The alternative bottom-up approach aggregates regional activity (the "bottom") to a systemwide total (the "top"). The bottom-up approach is not necessarily more accurate than the top-down.4/ By formulating a bottom-up model of the economy with individual regional models as a basis, however,some of the difficulties inherent in the top-down approach can be mitigated. First, because economic activity is determined initially at the regional level and then summed to produce national aggregates, bottom-up models can be used to estimate the national economic impact of changes in the regional distribution of economic activity. Second, by modeling specific changes in each region's level of economic activity over time, and incorporating such unconstrained relationships into a model, the bottom-up approach can be used to analyze regional growth differentials during the business cycle.

It should be noted that there are few "pure" forms of either top-down or bottom-up models. As Courbis (1979), Bolton (1980), and others have pointed out, some variables in top-down models are determined at "the bottom" and summed to national figures; similarly, bottom-up models have elements that are determined nationally and that influence regional (or "bottom") variables.

The focus of the remainder of this study is on the structure and application of one primarily bottom-up multiregion model--the National-Regional Impact Evaluation System (NRIES). As outlined in chapter 1, the model is comprised of 51 individual interactive State models that capture regional linkages in the U.S. economy. It is a basic contention that bottom-up national multiregion models such as NRIES are structured so that they can be more effectively employed in the analysis of short-run impacts of public policy changes than can top-down models.

---

2. Most regional theories suggest that disequilibrium and distributional changes have a greater short-run rather than long-run impact.

3. See Bretzfelder (1973), Kort (1979), and Friedenberg and Bretzfelder (1980).

4. The top-down models have a tendency to be more stable because of the exogenous national control. Alternatively, bottom-up models are potentially more sensitive to regional cycles. There is, however, no existing study that compares the accuracy of these two approaches.

Chapter 4

THE STRUCTURE OF NRIES

As discussed in the previous chapter, many parts of the NRIES model are structured similarly to other national multiregion models. There are, however, several key features in NRIES that make it a unique modeling system. First, in contrast to most other multiregion models, NRIES takes a bottom-up approach to regional analysis; the national model is in most instances derived from summing the 51 independently constructed State models. Each State model, for instance, could generate individual growth patterns as if there were 51 separate single-region econometric models. National growth trends in this bottom-up approach, therefore, are determined by regional growth patterns, and not vice versa.

Regions do not grow independently, however, and this is reflected in the second important feature of the NRIES model: the explicit set of interregional linkages in economic activity among all States. Interaction variables, derived for each State and representing distance-deflated economic activity in all other States, are included in the State equation estimations and link economic activity among regions. Since interaction variables are distance-deflated, the linkages are spatially proportioned. For example, while economic activity in California affects the economies of both Nevada and New Hampshire, the influence on Nevada would be greater due to its proximity. The interaction variables are also weighted by the mass (levels of economic activity) of the States. For example, although New York and Connecticut are nearly the same distance from Louisiana, the influence of New York on the Louisiana economy would be greater than Connecticut's due to New York's larger size.

The remainder of this chapter is divided into three sections. In the first, the general model system is discussed. This is followed by a more detailed discussion of the interregional linkages in NRIES. The chapter concludes with a brief description of model dimensions and estimation characteristics.

THE MODEL SYSTEM

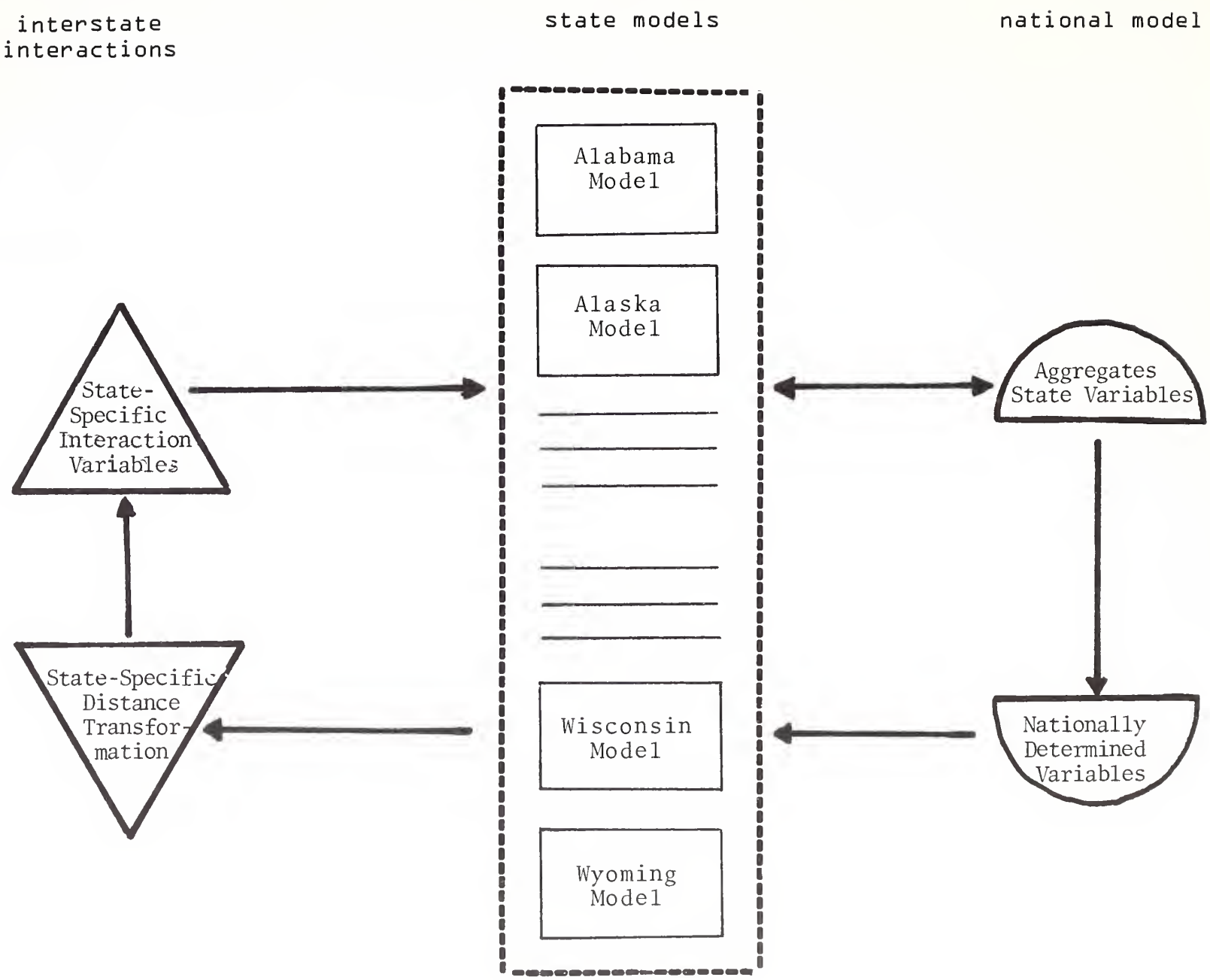
A flow diagram of the general relationships in NRIES is in figure 4.1, while the model's specification is presented in matrix notation in the equations throughout this section. Since NRIES employs the bottom-up modeling approach, the individual State models form the basic component of the system. Equation 4.1 represents the principal relationship applied to each State.

$$ {}^{r}X_t = A\,{}^{r}X_t + B\,{}^{r}Z_t + C\,{}^{r}N_t + {}^{r}U_t \qquad (4.1) $$

The typical State model might be best portrayed as a system of multiregional equations. Within a State r, in time period t, the level of a particular type of economic activity (e.g., output or employment in an industry) is expressed as a function of three types of variables: regional endogenous (X), which are the economic activities of related sectors within the State; regional and national exogenous (Z), which are mainly the policy variables; and national and interregional endogenous (N), which represent national activity and flows among the States.

The set of variables representing the economic activity in related sectors of the same State's economy are shown in the center of figure 4.1. These establish the internal linkages within each of the State models. For example, they include disposable personal income, which may be used in the specification of an output equation, and output, which may be used in an employment

Figure 4.1 N R I E S Model System Flow Diagram



equation. The first term on the right hand side of equation 4.1, $A\,{}^{r}X_t$, represents these <u>regional endogenous</u> variables. The X vector variables are represented in equation 4.2.

$$
{}^{r}X_t = \begin{bmatrix} {}^{r}x_t^{1} \\ \vdots \\ {}^{r}x_t^{i} \end{bmatrix} \tag{4.2}
$$

The next set of explanatory variables includes the policy 'levers' within the State models. The second term on the right hand side of equation 4.1, $B\,{}^{r}Z_t$, represents these <u>regional and national exogenous</u> variables. The Z vector has both State (the center of figure 4.1) and national (the right column of figure 4.1) variables and is partitioned as shown in equation 4.3.

$$
{}^{r}Z_t = \begin{bmatrix} {}^{r}z_t^{1} \\ \vdots \\ {}^{r}z_t^{p} \\ \hline z_t^{p+1} \\ \vdots \\ z_t^{s} \end{bmatrix} \tag{4.3}
$$

The top part of the ${}^{r}Z_t$ vector contains the regional exogenous variables, ${}^{r}z_t^{1}$ to ${}^{r}z_t^{p}$, which are unique to each State. They include, for example, the Federal grants-in-aid payments to State and local governments. The remainder of the vector contains the national exogenous variables, z_t^{p+1} to z_t^{s}, which remain the same for all States. These variables typically have no regional variation; Federal Reserve Bank policies and Social Security benefit and contribution levels are examples of such variables.

Up to this point, equations 4.2 and 4.3 have described the regional endogenous and regional and national exogenous components of NRIES. These components can be presented as follows:

$$
{}^{r}X_t = A\,{}^{r}X_t + B\,{}^{r}Z_t \tag{4.4}
$$

This equation is roughly equivalent to equation 3.1, the specification of a single-region econometric or input-output model.

The final type of explanatory variable, shown on the right- and left-hand columns of figure 4.1, consists of the activity that is external (exogenous) to a particular State but internal (endogenous) to the complete NRIES model system. The third right-hand term in equation 4.1 includes these national and interregional endogenous variables. The N vector is partitioned into three element sets as shown in equation 4.5.

$$
{}^{r}N_t = \left[\begin{array}{c} n_t^1 \\ \vdots \\ n_t^i \\ \hline n_t^{i+1} \\ \vdots \\ n_t^j \\ \hline {}^{r}n_t^{j+1} \\ \vdots \\ {}^{r}n_t^m \end{array}\right] \tag{4.5}
$$

The first set of elements in the N vector contains the national totals, n_t^1 to n_t^i. They are derived by simply summing the level of activity for each State variable over all of the States. This is the key feature in a bottom-up modeling approach and is shown in equation 4.6.

$$
n_t^i = \sum_r {}^{r}x_t^i \tag{4.6}
$$

The second element set in the N vector includes the national variables, n_t^{i+1} to n_t^j, which are stochastically estimated at the national level and, therefore, have no regional counterpart. They are variables that typically show little regional variation (e.g., interest rates) and those for which data are not available at the regional level (e.g., sector prices).

While NRIES is structured as a series of State models, the system does include an implicit national model. This implicit model consists of the national variables summed from the States (n_t^1 to n_t^i). the nationally estimated variables (n_t^{i+1} to n_t^j), and the national exogenous variables (z_t^{p+1} to z_t^s). The specification of the implicit NRIES national model is represented by equation 4.7.

$$N_t = A N_t + B Z_t + U_t \tag{4.7}$$

Here, N_t includes only the national endogenous variables and Z_t only the national exogenous variables. This specification is similar to many national econometric models. In such models, the activity in a particular national sector is typically related to the activity levels of the other national endogenous and national exogenous variables. As mentioned previously, however, the only NRIES variables that are estimated directly at the national level are those that cannot be regionally derived. The national level of the majority of NRIES variables is expressed as regional sums.

The final element set in the N vector contains the interaction indexes ${}^r n_t^{j+1}$ to ${}^r n_t^m$. These variables are used to measure the distance-deflated demand that occurs <u>outside</u> of a particular State. They are calculated individually for each State (r) and variable (x^m) based upon the formula shown in equation 4.8.

$${}^r n_t^m = \sum_{k \neq r}^{51} \frac{{}^k x_t^m}{{}^{rk}D} \tag{4.8}$$

To compute the interaction index for a particular variable in State r, the activity level of the variable x^m in each of the <u>other</u> States (k) is scaled by the respective distance between the pair of States, ${}^{rk}D$, and then summed. The interaction index is a measure of the expected trade flows between regions. It is an alternative to the modeling of actual trade flows data which are presently neither comprehensive nor up-to-date. The theory behind the interaction index originates from the early gravity-potential models such as Stewart (1947) and Ziph (1946). Here, flows of a particular commodity (or population) from one area to another will increase proportionately with the level of applicable consumer or industrial demand. This is the numerator in equation 4.8.

The denominator is the impediment to trade, usually modeled as the transportation costs or the distance between regions. In NRIES, the denominator is the linear distance factor, ${}^{rk}D$, originating from a symmetric matrix of geographic distances between the population centroids of each State. As noted by both Ballard (1975) and Carrothers (1966), the simple linear distance

technique is only one of several possible ways to explain spatial relationships in a gravity-potential context. The earlier models, for instance, used distance squared; a more recent study by Clark and Ballard (1979) has suggested that for population migration the distance factor ranges from 1 to 2, declines over time, and is affected by economic conditions. The primary advantage for a linear distance framework (used in NRIES) is that it is computationally simple and does not constrain analysis to the point-in-time spatial interaction patterns seen with a single commodity flows matrix.

INTERREGIONAL LINKAGES IN THE MODEL

Since these linkages form the basis of the interactions among State models in NRIES, they are described in more detail and compared with those of other multiregion models in this section. Three types of interregional linkage variables are included in the typical State model: relative cost variables, adjacent State demand variables, and State-specific interaction variables. The use of these interregional variables in the stochastic estimation of NRIES equations establishes the explicit interregional linkages among the State models.

The first set of linkages, relative cost variables, is often incorporated into multiregion models to reflect the factor input or price advantage of a particular State vis-a-vis the remainder of the States. For example, Milne, Glickman, and Adams (1978) express regional output shares by industry and region as a function of labor and energy prices in a region relative to prices in the remainder of the country. Similarly, NRIES employs manufacturing sector wage rates in a particular State relative to national rates as a relative cost variable in the durable goods output equations.

A second set of linkages, adjacent area demand variables, is included in multiregion models to reflect the magnitude of the market in selected areas surrounding the region in question. For example, Olsen, et al. (1977) have defined the market potential of a particular (BEA) region as the distance which can be traversed within 8.3 hours driving time, and have incorporated variables reflecting relative market potential in employment share equations by industry and region. In a similar fashion, NRIES employs market area disposable income and population variables to explain the demand for output in nondurables manufacturing, finance, and trade. The determination of the NRIES geographic bounds of the market areas for each State is based upon the availability of interstate highway and other transportation links between large population areas in adjacent States.

Another major linkage mechanism incorporated in multiregion models focuses on the interaction between economic activity in the reference region and that in all remaining regions in the model. For example, Harris (1973) used a linear programming transportation algorithm to derive shadow prices associated with the transport of marginal units of inputs and outputs for each region (county). These shadow prices, which were based upon estimates of the unit transport costs of all commodities between each pair of regions, were incorporated into output share equations of the model. Rather than focusing on transport costs, NRIES links each region to the remaining regions based upon a gravity concept. As described in the previous section, a series of interaction indexes is calculated for each State to represent the level of economic activity in all other States, weighted by the distance from the other States to the State in question. These indexes are calculated from such State variables as gross output, personal income, retail sales, and population. Their purpose is to provide estimates of distance-deflated demands by other States for a particular State's product. Interaction variables have been incorporated into NRIES output equations for durables and nondurables manufacturing, retail sales, and transportation, communication, and public utilities.

MODEL DIMENSIONS

Each of the 51 NRIES State models includes equations for a range of economic variables similar to that included in the typical single-region econometric model. Major economic categories include industrial output, employment, and wages (12 industries each); nonwage income by source (four components); State and local government revenues and expenditures (ten components); personal tax and nontax payments (five components); and retail sales (five outlet types). Demographic variables include population (five age cohorts); unemployment (total and insured); labor force; and births and deaths.

Behavioral equations are econometrically estimated for each variable in each State with annual data. There are 264 equations for each State, of which 68 are estimated stochastically. In addition, there are 98 national equations; twenty of these national equations are estimated stochastically. Thus, the full NRIES model has about 14,000 total equations, of which 3,500 are behavioral. Because of the nonlinear estimation of certain equations, there is no unique reduced-form model specification.1/ A Gauss-Seidel iterative solution technique is used to solve the model.

---

1. See Faddeeva (1959) for further information on the solution of systems of nonlinear equations.

Chapter 5

THE SPECIFICATION OF NRIES EQUATIONS

In previous chapters, a unique characteristic of NRIES, its essentially bottom-up approach, was discussed. The focus of this chapter is the specification of the NRIES equations suggested by this approach. Such an approach calls for the stochastic estimation of both national and regional equations, although the majority of equations would be regional. This chapter presents the specification of the equations for both the regional and national variables in NRIES.

The first six sections of this chapter describe the general specification of the NRIES equations that determine the 68 regional stochastic variables for each region (State). These State equations have been organized into six sectors: output, employment, personal income, demographic, government fiscal, and retail sales and automotive. 1/ In these six sectors, a general equation is usually presented for each stochastic variable, because of the similarity in the explanatory variables used to estimate the same variables across the 51 States. However, it should be noted that each variable in the general equation does not necessarily appear in each State equation, and, obviously, estimated coefficients will differ from State to State.

In the seventh and last section of this chapter, the specification of the 20 national stochastic variables in NRIES is described. Because of the relatively small number of these variables, all 20 equation specifications are shown, together with their associated error statistics.

Each of the behavioral equations are econometrically estimated for each variable and each State using annual time-series data, in most cases for the 1955-1976 time period. All equations are estimated in linear form in order to insure comparability. A first order Cochrane-Orcutt adjustment is applied when serial correlation is evident. Standard statistical criteria are employed to determine the combination of variables included in the actual equations. A complete list of all regional and national variables and identities is contained in appendix A. Appendix B contains a description of NRIES data sources. Each of the 3500 regional stochastic equations, including statistics on the significance of independent variables and goodness of fit, is contained in appendix C.

Before proceeding with a discussion of the equation specifications, several notational conventions that are used in this chapter should be noted. All dollar-valued variables referred to throughout the chapter are in current dollars unless otherwise noted. The r and n superscripts refer to regional (State) and national variables, respectively; they are used only when it is necessary to distinguish between different multiarea levels in an equation. The t subscript refers to the current time period while t-n indicates earlier time periods. The estimated coefficients are represented by b_i and the stochastic error term, by e.

---

1. For a further discussion of the role of data in the specification of regional models, see Glickman (1977) and Klein (1969).A reader new to regional modeling will probably note that this grouping of variables is very different from that usually used in national econometric models. The reason is the current lack of regional data on consumption, investment, and foreign trade to model the familiar Keynesian (e.g., Consumption + Investment + Government + Foreign Trade = National Product) relationships. In NRIES, as with most other regional models, the output and income sectors have taken over this basic role.

OUTPUT SECTOR

Output2/, which is estimated in constant (1972) dollars, is generally considered the most meaningful general gauge of economic activity. While estimates of industry output at the national level are regularly prepared, no comparable set of State data is available. Accordingly, the output data used in NRIES are based on a modified Kendrick-Jaycox (1965) procedure. This procedure is discussed in more detail in appendix B.

Taken together, the equations of the output sector in NRIES generally conform to an export-base theory. Basic industries, those whose production primarily responds to export demand from other regions, include most of agriculture, and mining, manufacturing, and the Federal Government. Output in these industries, therefore, is functionally related to the level of demand external to the region as represented by the national and interregional explanatory variables, although regional (State) variables are often included. The remaining (nonbasic) industries derive their demand primarily from local sources, and thus are functionally related to levels of State variables. While national and interregional explanatory variables may be in the equations here, their influence on these nonbasic industries is less. Figure 5.1 summarizes the variable relationships in the output sector by industry.

A "Weber" type of approach is taken in the equation specification of manufacturing durables output. Firms in this industry produce easily transportable goods for a national market, and, hence, locate to minimize the delivered cost of these goods (the sum of production and transportation costs). The production levels of established firms are therefore linked to these same cost factors.

In the equation specification, total output is the primary explanatory variable; it accounts for both the agglomeration (supply) and marketing (demand) components in the Weberian framework. Total output is used in two separate explanatory variables, each measuring a distinct effect. First, a local (within a particular State) output variable is included to reflect the home-State demand and the traditional sales relationships that many producers have with firms in the immediate vicinity. Second, an interactional (distance deflated) output variable is included to reflect the rest of the Nation's distance-deflated demand.

In most States durable goods production tends to be influenced by national business cycle conditions. To account for this, both explanatory output variables are multiplied by a national index of durable goods production. This index is the ratio of major durables demand components (national personal consumption expenditures for durables, investment in nonresidential equipment, and State and local government expenditures for durables) to total national output (Gross Domestic Product):

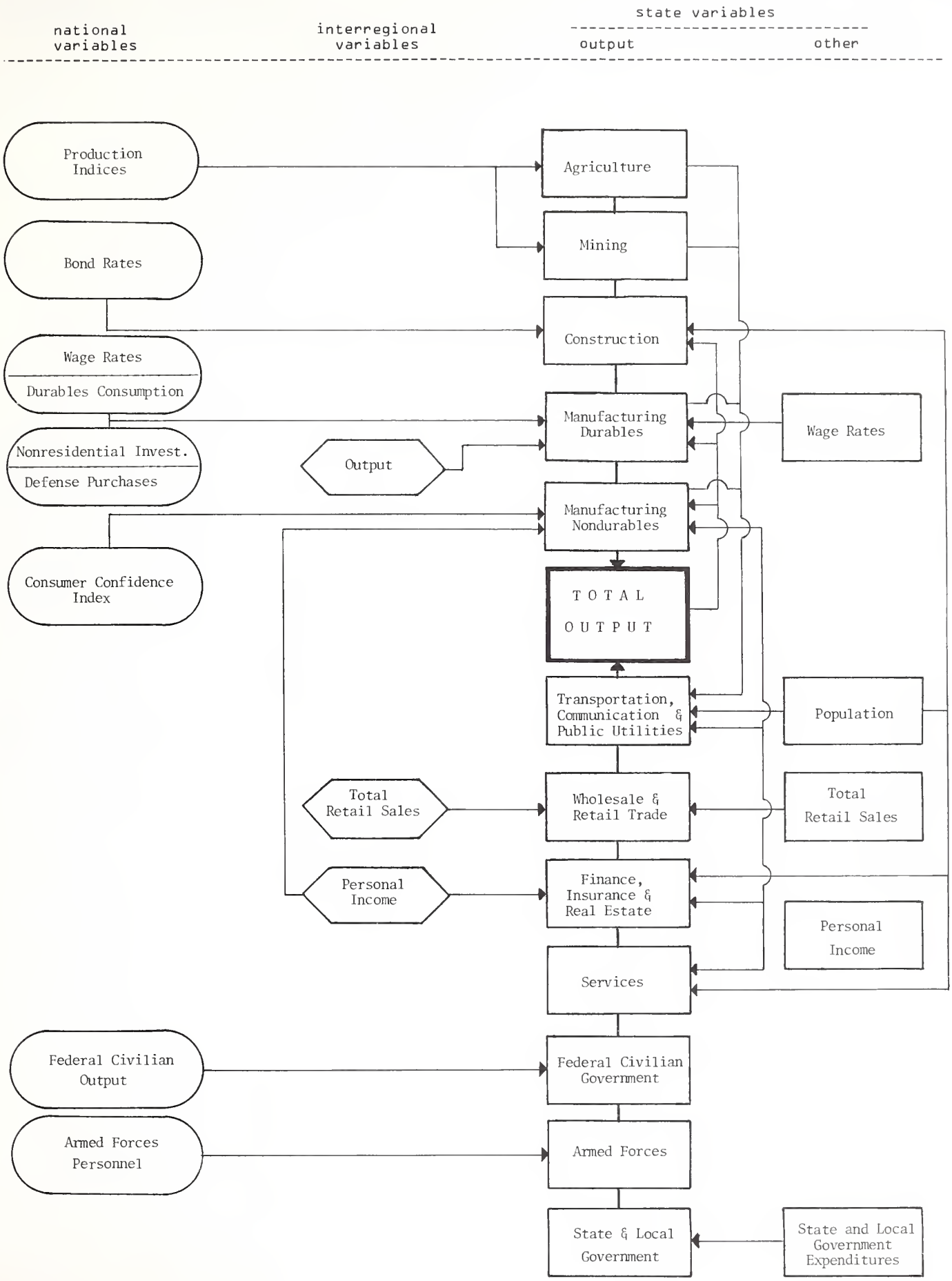
$$XCD^n = \frac{CEMD^n + IFE^{*n} + GELD^n}{X^n} \tag{5.1}$$

where:

XCD	is index of durable goods production
CEMD	is personal consumption expenditures for durables
IFE*	is investment in nonresidential equipment
GELD	is total State and local government expenditures for durables
X	is total output

2. Output as employed here is shorthand for Gross Domestic Product and, therefore, excludes consideration of the rest-of-the-world sector which is included in Gross National Product. It is defined as the combination of employee compensation, profit-type income, net interest, indirect business taxes, and capital consumption allowances originating in the domestic economy.

Figure 5.1 Output Specification



The level of Federal Government durable goods purchases is included in some States where defense contracts account for a major portion of durables output. In addition, to account for regional labor cost differentials, the ratio of State to national manufacturing wage rates is included. Incorporating each of the above variables, the complete stochastic equation is shown below in equation 5.2.

$$XMDR_t = b_1 + b_2 (XCD_t^n * X_t) + b_3 (XCD_t^n * IX_t) + b_4 GEFD_t^n + b_5 \frac{WM_t}{WM_t^n} + e_t \tag{5.2}$$

where:

XMDR	is manufacturing durables output
IX	is interactional (distance deflated) output
GEFD	is Federal Government durables purchases
WM	is manufacturing wages in current dollars

A market area demand orientation is taken in the specification of manufacturing nondurables output. The demand for these goods originates from both consumers and businesses, and includes both consumption demand and input demand. As with durables output, the market has both local and regional components, and, for some goods, an interregional component. For some goods the market area is often large enough to be, in effect, national. In addition, the production of goods in the sector may be heavily influenced by national business cycle conditions.

In the specification, total State output is used to account for local demand factors. In the larger States, where a high level of local consumer demand typically exists, personal income is sometimes substituted. A market area (defined as the geographically adjacent States), or interactional, demand explanatory variable is also included to place the specification in a multiarea framework. In this context, a market area demand variable might be represented by disposable personal income (defined as the geographically adjacent States) while a national demand variable might be represented by an interactional output or income variable. Finally, to reflect business cycle impacts on the current level of production, the percent change in the national consumer confidence index (as estimated by the Conference Board) is included. The general specification is shown below in equation 5.3.

$$XMND_t = b_1 + b_2 \begin{bmatrix} X_t \\ \text{or} \\ Y_t \end{bmatrix} + b_3 \begin{bmatrix} IDI_t^* \\ \text{or} \\ DI*R_t \end{bmatrix} + b_4 CCIP_t^n + e_t \tag{5.3}$$

where:

XMND	is manufacturing nondurables output
IDI*	is interactional (distance deflated) disposable income
DI*R	is market area disposable income (excludes home State)
CCIP	is percent change in the consumer confidence index

Construction industry output can be viewed as being comprised of three distinct components: residential, commercial and industrial, and utilities and highways. The specification is derived by first looking at the hypothetical specification of each of the three components.

New residential construction is most influenced by changes in the level of disposable personal income and population. It is also negatively related to the long-term bond rate since increases in the mortgage rate effectively make housing more expensive.

$$XCC1_t = \text{fcn}\left\{DPI^*_t \text{ and } P_t \text{ and } FBYA^n_t\right\} \tag{5.4}$$

where:

XCC1	is residential construction
DPI*	is disposable personal income
P	is total population
FBYA	is long-term bond rate

Commercial and industrial construction is influenced most by the level of nonconstruction economic activity in the State. The long-term bond rate is also included to reflect the effect of interest rates on this type of construction.

$$XCC2_t = \text{fcn}\left\{(X - XCC)_t \text{ and } FBYA^n_t\right\} \tag{5.5}$$

where:

XCC2	is commercial and industrial construction
XXC	is construction output

Utilities and highways construction (XCC3) must be handled implicitly because of the importance of large contracts and the resulting unevenness of construction expenditures. The total construction output specification can now be represented by the summation of the separate construction output specifications:

$$XCC_t = XCC1_t + XCC2_t + XCC3_t \tag{5.6}$$

In the current version of the model, only the total construction output is estimated. This is done by combining the explanatory variables from equations 5.4 and 5.5. An additional lagged dependent variable is included in the specification, both to account for the utilities and highway component and to reflect the multiyear duration of many construction projects. Only the output explanatory variable is used because of the close relationship between disposable personal income (in the residential component) and nonconstruction output (in the commercial and industrial component). The overall specification of construction output is shown below in equation 5.7.

$$XCC_t = b_1 + b_2 (X - XCC)_t + b_3 P_t + b_4 FBYA^n_t + b_5 XCC_{t-1} + e_t \tag{5.7}$$

The specification of the transportation-communication-public utilities (TCU) output variable is also derived from the aggregate of its three distinct industrial components. Transportation industry output consists mainly of the movement of people and the shipment of goods. In the specification, the movement of people is accounted for by the level of the adult population. The shipping of goods is reflected by the level of local mining, manufacturing, and agriculture, forestry, and fishery output.3/

Communication industry output is most affected by consumer demand, as measured by the levels of the adult population and local income.

Utilities industry output is directly affected by the number of households (here the adult population variable is used) and the level of local income, both of which measure the consumer demand. Manufacturing and mining output will also affect utility output, since production often requires large amounts of electricity or natural gas. Commercial (services-sector) utility demand is influenced most by the previously mentioned level of local income.

Due to large-scale and agglomeration economies inherent in the structure of the TCU industries, output changes tend to occur slowly. Therefore, a lagged dependent variable is added to reflect this tendency. The overall TCU output specification is shown below in equation 5.8.

$$XTCU_t = b_1 + b_2 XT4_t + b_3 PT1_t + b_4 Y^*_t + b_5 XTCU_{t-1} + e_t \qquad (5.8)$$

where:

XT4 = XAFF + XMIN + XM

XTCU	is transportation-communication-utilities output
XAFF	is agriculture, forestry and fishery output
XMIN	is mining output
XM	is manufacturing output
PT1	is adult population 18 years and above
Y*	is level of income

The specification of wholesale and retail trade output is primarily based on the level of sales of the two trade components. The retail trade output component is accounted for by local retail sales. The wholesale trade output component, which tends to be interregional, is reflected by interactional (distance-deflated) retail sales. In some States collinear relationships result from the use of the two retail sales variables, so that interactional disposable personal income is substituted for interactional retail sales. The overall wholesale and retail trade output specification is shown in equation 5.9.

---

3. The choice of these variables reflects the assumption that the majority of demand for goods shipments is generated by export industries, notably manufacturing. While this is probably not entirely correct in all States, particularly those with small manufacturing bases, this same specification was employed for the sake of consistency.

$$XWRT_t = b_1 + b_2 RS_t^* + b_3 \begin{bmatrix} IRS_t^* \\ \text{or} \\ IDI_t^* \end{bmatrix} + e_t \tag{5.9}$$

where:

XWRT	is wholesale and retail trade output
RS*	is retail sales
IRS*	is interactional (distance deflated) retail sales

Finance-insurance-real estate industry output is a local-service sector in most States. As such, demand will fluctuate with the local income and adult population. In addition, much of the finance and real estate output activity is tied to the construction sector. To account for this, another explanatory variable, the percent change in construction sector output, is added. The specification of the finance-insurance-real estate output equation is shown below in equation 5.10.

$$XFIR_t = b_1 + b_2 Y_t^* + b_3 PT1_t + b_4 XCMP_t + e_t \tag{5.10}$$

where:

XFIR	is finance-insurance-real estate output
XCMP	is percent change of the moving average of construction output

In a few States, the output of the finance and insurance components may be directed towards a large multistate or national market. This arises when a large metropolitan area dominates a multistate region. Some typical examples are New York City, Boston, and San Francisco. In these special cases, either the market area disposable income variable or the interactional population variable is added to the specification. This alternative specification of finance-insurance-real estate output is shown in equation 5.11.

$$XFIR_t = b_1 + b_2 Y_t^* + b_3 \begin{bmatrix} DI^*R_t \\ \text{or} \\ IP_t \end{bmatrix} + b_4 XCMP_t + e_t \tag{5.11}$$

where:

IP	is interactional (distance deflated) total population

The specification of services output is based on a local demand relationship where aggregate services consumption is determined by population and income movements. Historically, services output has had a greater growth rate than other industries in the national economy, and, hence, has increased its share of GNP. The lagged dependent variable and a time trend are often included in the specification to account for an increasing historical share at the State level. The overall output specification for services can be represented in equation 5.12.

$$XSER_t = b_1 + b_2 P_t + b_3 DPI_t^* + b_4 XSER_{t-1} + b_5 TIME_t + e_t \quad (5.12)$$

where:

XSER is services output
TIME is linear time trend

The specifications for the output of the agriculture and mining industries and the Federal Government are treated differently from the other, more demand oriented, output equations. For agriculture output and mining output, the specification reflects the unique export nature and low income elasticities of the products. State output in these two sectors is directly related to national production trends for these commodities. A time trend and lagged dependent variable is often added, adjusting for regional historical trends. The corresponding specifications for the agriculture and mining industries are shown in equations 5.13 and 5.14.

$$XAFF_t = b_1 + b_2 {}^iOF_t^n + b_3 {}^jOF_t^n + b_4 TIME_t + b_5 XAFF_{t-1} + e_t \quad (5.13)$$

$$XMIN_t = b_1 + b_2 {}^iOM_t^n + b_3 {}^jOM_t^n + b_4 TIME_t + b_5 XMIN_{t-1} + e_t \quad (5.14)$$

where:

OF is agriculture production index for commodity types i through j
OM is mining production index for commodity types i through j

Federal civilian output is specified from the legislated national level of Federal output. The national Federal Government civilian output is used as the primary exlanatory variable, with States receiving a relatively constant share of this total. A lagged dependent variable and time trend are used to adjust for the historical regional patterns in the growth of output. This general specification is shown below in equation 5.15.

$$XGFC_t = b_1 + b_2 XGFC_t^n + b_3 TIME_t + b_4 XGFC_{t-1} + e_t \quad (5.15)$$

where:

XGFC is Federal Government civilian output

Federal armed forces output is specified to take account of the unique nature of the military presence in the various States. Since States have different compositions of forces, the relative national importance or growth of a particular service (i.e., Army, Navy, or Air Force) will play an important role in determining the regional shares. The national levels of personnel in one or more of the different armed forces are therefore the primary explanatory variables in the equation. A time trend is added when either the size of the military bases or environmental advantages affect regional shares. This overall specification is shown below in equation 5.16.

$$XGAF_t = b_1 + b_2 \, {}^{i}AF_t^n + b_3 \, {}^{j}AF_t^n + b_4 \, TIME_t + e_t \tag{5.16}$$

where:

XGAF is Federal Government armed forces output
AF is armed forces personnel for service types i through j

The State and local government output specification is based on a linking of fiscal and output relationships. Output is related directly to State and local government expenditures, which, in turn, are determined in the government fiscal sector of the model. This specification is shown in equation 5.17.

$$XGSL_t = b_1 + b_2 \, GE_t^* + b_3 \, TIME_t + e_t \tag{5.17}$$

where:

XGLS is State and local government output
GE* is State and local government expenditures

EMPLOYMENT SECTOR

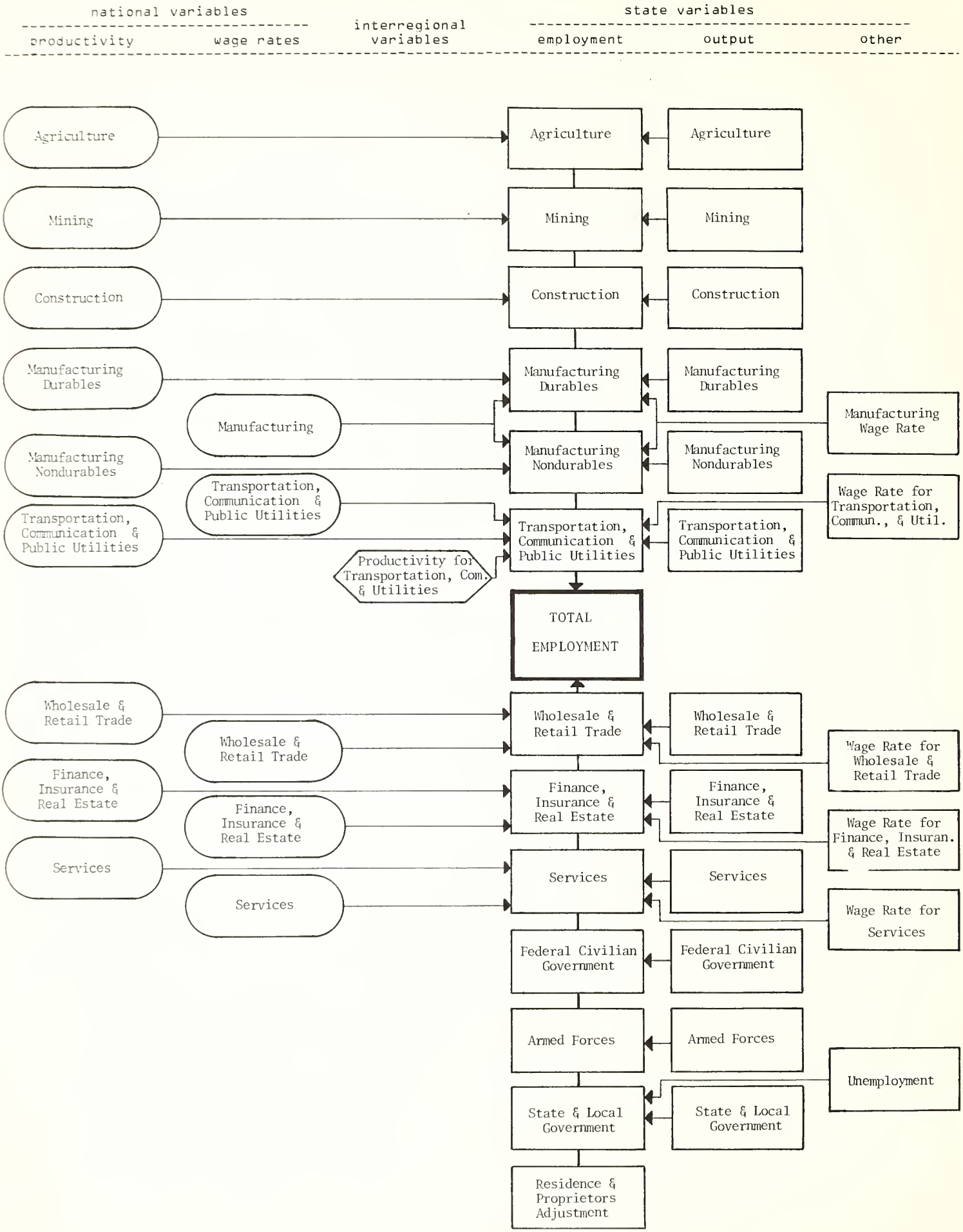
The specification of the employment variables is comparable for all 11 industries. Figure 5.2 provides an overview of the basic relationships in this sector. The specification is based on a linear factor-demand relationship that assumes that firms are short-run profit maximizers. This derived-demand specification implies that employment can be expressed as a direct function of output.

In addition, several other types of variables are included. First, to account for the substitutability between capital and labor, and since no adequate measures of State capital inputs are available, a moving average of State employee productivity (output/employee) by industry is included as a proxy. Second, the dynamic nature of labor demand requires that a lagged dependent variable be included in the specification, since firms are often reluctant to terminate employees during slack periods and are reluctant or unable immediately to hire skilled workers during periods of expansion. Third, since technological change often affects the ratio of factor inputs over time, a technological explanatory variable is added, represented as the ratio of national employment to national output. In some cases, time is used as a substitute for the technological change variable. Finally, to account for the relative cost of labor, the relative industry wage rate within a State is included. It is defined as the ratio of the average industry wage rate to the average total State wage rate, and it is lagged in the actual specifications to reflect better the tendency for wage information to disperse slowly.

The general stochastic specification of the employment equations is shown in equation (5.18).

$$E_t^j = b_1 + b_2 \, X_t^j + b_3 \, \frac{1}{s} \sum_{i=1}^{s} \left\{ \frac{X^j}{E^j} \right\}_{t-i} + b_4 \, E^j_{t-1} + b_5 \, \frac{{}^{n}E_t^j}{{}^{n}X_t^j} + b_6 \left\{ \frac{W^j}{W} \right\}_{t-1} + e_t \tag{5.18}$$

Figure 5.2 Employment Specification



where:

W^j	is average wage rate for industry j
W	is average wage rate
X^j	is output for industry j
E^j	is employment for industry j
S	is number of years in the moving average

PERSONAL INCOME SECTOR

Figure 5.3 describes the general relationships among the variables in the personal income sector. Total personal income by place of residence is derived from two sources: wage income (earnings) and nonwage income.4/

Wage Income

The level of the first variable, wage income, is modeled as an identity, calculated from the levels of industry employment and industry wage rates.

$$C^i = E^i * W^i \tag{5.19}$$

$$C = \sum_{i=1}^{n} C^i \qquad \text{industries } 1,2,\ldots n \tag{5.20}$$

where:

C	is level of wage income for industry i
E	is level of employment for industry i
W	is wage rate for industry i

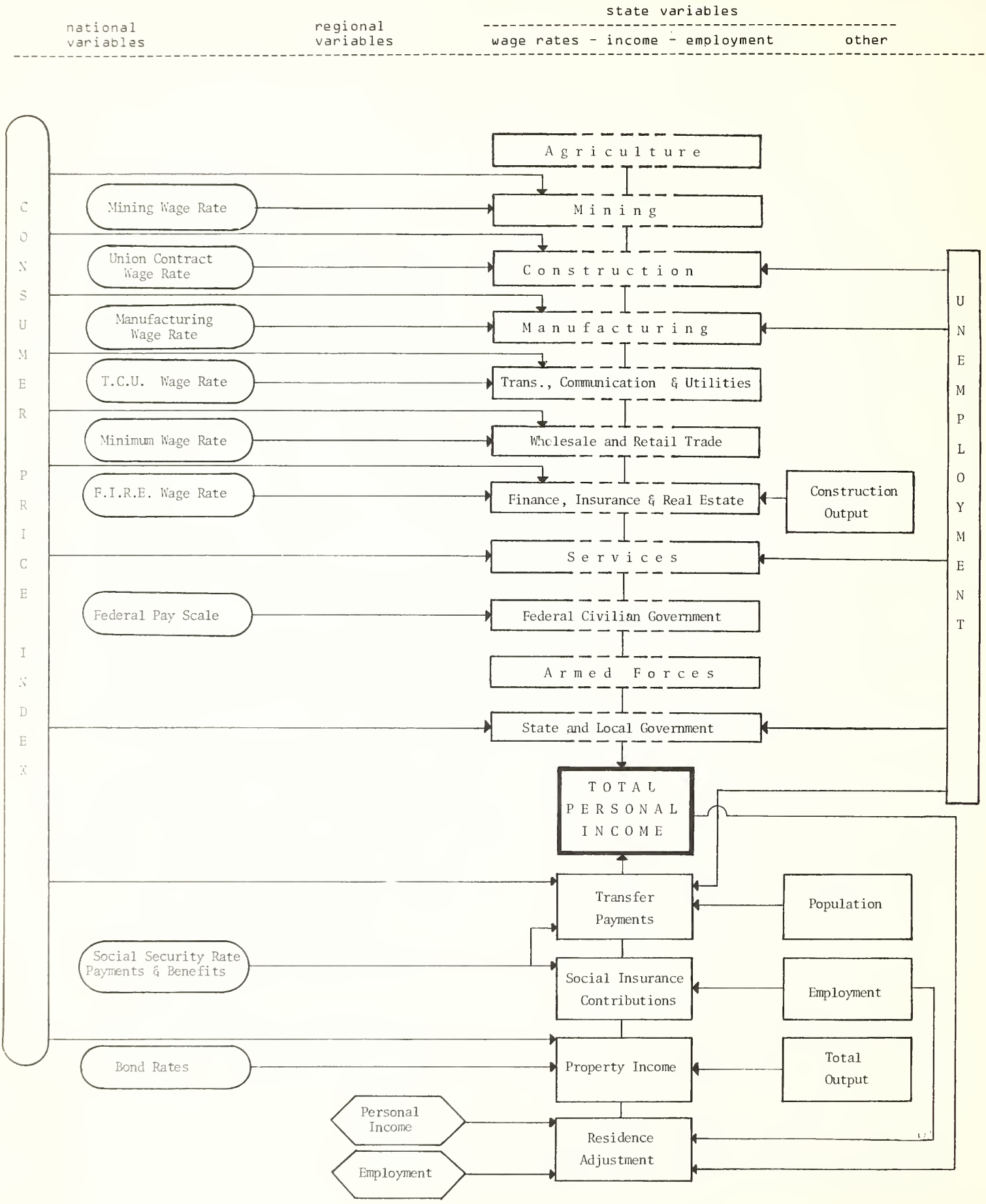
The specification of the wage rate variable is similar in all behavioral equations. The general wage rate specification, shown in equation 5.21, includes three basic types of explanatory variables: a price level variable, a behavioral variable (which reflects industry-specific or area-specific properties of wage rates), and a lagged dependent variable.

$$W_t^i = b_1 + b_2(\text{Price}) + b_3(\text{Behavioral}) + b_4 W_{t-1}^i + e_t \tag{5.21}$$

In estimating wage rate equations, the level of consumer prices tends to be the most important explanatory variable. This may reflect the greater relevance of cost-of-living

4. Total personal income in the National Income and Product Accounts is defined as employee earnings, plus transfer payments, minus personal contributions for social insurance, plus dividends, interest, and rent, plus the residence adjustment (to convert income from an establishment to residence basis).

Figure 5.3 Income Specification



adjustments in collective bargaining agreements as opposed to changes in returns to factor productivity. Where applicable, one of the following composite price transformations is used in the specification:

(1) A multiyear moving average of the consumer price level.

$$\frac{1}{s} \sum_{i=1}^{s} DC_{t-1} \tag{5.22}$$

where:

DC is Consumer Price Index
S is number of years in the moving average, usually 2-3 years

(2) The current consumer price level and, in addition, a "catchup" index variable. This catchup index is based on the assumption that wage contracts will keep up with the current level of inflation. This adjustment process, however, may take place over an extended period of time due to long-term wage contracts. When the rate of inflation is increasing, wages will not initially go up as fast as inflation. Alternatively, when the rate of inflation is decreasing, wages will catch up with past inflation. The catchup index employed for this purpose is shown in equation 5.23, and is inversely related to wage rates.

$$DCP_t - \frac{DCP_{t-1} + DCP_{t-2}}{2} \tag{5.23}$$

where:

DCP is percent change in the Consumer Price Index

The behavioral variable is included to reflect particular industry-specific or area-specific properties of wage rates. Several types of behavioral variables are used with the one chosen in the specification depending upon characteristics of the industry and region. The major behavioral variables include:

(1) The ratio of local to national unemployment ($UT3_t$). This variable was included mainly in highly competitive industries where wage demands may be less when unemployment is higher. The relationship modeled represents the Phillips Curve.

(2) The percent change in industrial employment (E^iP_t). This was also relevant in competitive industries. When firms have to attract significant numbers of new employees, wages might be increased. Conversely, when employment decreases in an industry, firms are more reluctant to give unnecessary wage advances or bonuses.

(3) Union contract wage levels (DW^iU_t). Often this information is used as a benchmark for wages by nonunion firms as well as unions.

(4) The national industry average wage rate ($^nW^i_t$). This variable is used primarily in small States or where industrial output levels are relatively low and wage rates basically follow national trends.

(5) The lagged difference between the national- and local-industry wage rates ($^nW^i_{t-1} - W^i_{t-1}$). This is applicable in States where wage rates have historically lagged substantially behind national rates. This variable reflects a catchup phenomenon and is positively related to current wage rates since State wage rates have tended to converge toward the national rate.

(6) The minimum wage rate ($DEMW_t$). This variable is most applicable to the low-paying services and trade industries.

Finally, the lagged dependent variable is added to account for wage rate inflexibility. As in the typical Keynesian model, it is assumed that employees tend to resist pay reductions. At the same time institutional arrangements, such as union contracts, tend to slow productivity-related pay advances.

Nonwage Income

There are four nonwage personal income variables estimated by the model: transfer payments; personal contributions for social insurance (mostly Social Security taxes); dividends, interest, and rental payments; and a residence (usually commuter) adjustment. Because the sources of the four types of income vary substantially, each is estimated by using a different specification.

The transfer payments component of personal income is estimated on a benefits accrued basis. Benefits are derived mainly from two sources: retirement payments and worker-related payments originating during employment. The former includes private pensions, government pensions, and Social Security payments; the latter includes workmen's compensation (disability-type payments) and unemployment insurance benefits.

Within the retirement payments component, Social Security is the primary element. Because of the complexity of the system, it is not feasible to include each age group and its respective benefit rate directly in the estimation. Therefore, a proxy is used: the State population over 64 years multiplied by a national ratio of retirement payments per eligible recipient. This national ratio is the product of the number of workers over age 64 insured by Social Security, the percent of those eligible receiving benefits, and the average retirement benefit paid, divided by the national over-64 population.

The worker-related payments component is structured similarly. The regional population under 65 years is scaled (to adjust for family size) and added to the number of regional insured unemployed. Population is used here rather than employment since most of the payments accrue to workers and their families after employment has ceased. The population and unemployment numbers are then multiplied by the national Social Security worker coverage rate (to determine those eligible) and the national Consumer Price Index. The Consumer Price Index is employed as a proxy for the level of benefits paid.

The lagged dependent variable is included as a third explanatory variable in the estimation to account for trends in local coverage that might differ from national trends. The overall specification is shown in equation 5.24.

$$YTRP_t = b_1 + b_2\, PT7_t + b_3\, PTO_t + b_4\, YTRP_{t-1} + e_t \qquad (5.24)$$

where:

$$PT7 = \frac{P65+ \;*\; SSBY^n \;*\; SSBX^n \;*\; SSBI^n}{P65+^n \;*\; 100}$$

$$PTO = \left[\frac{P - P65+}{3}\right] + UI \;*\; SSC \;*\; DC \;.001$$

YTRP	is transfer payments
P65+	is over-64 population
SSBY	is number of Social Security insured workers over 64
SSBX	is percent of eligible workers receiving Social Security benefits
SSBI	is average amount of Social Security retirement benefit
P	is population
UI	is number of insured unemployed
SSC	is Social Security worker coverage rate
DC	is Consumer Price Index for all items

Personal contributions for social insurance is estimated using three basic explanatory variables. The first variable reflects what the Social Security collections would be if every worker earned enough to qualify for the highest Social Security withholding rate. To obtain this measure, State employment is multiplied by the national level of the maximum Social Security withholding per worker. This national level is formed by multiplying the worker coverage rate, the contribution rate on wages, and the maximum taxable earnings per worker.

The second variable accounts for the difference between the maximum withholding rate and the actual State withholding rate. This variable is computed as the difference between the maximum Social Security taxable earnings and the average earnings per worker in the State.

Either the lagged dependent variable or a linear time trend is also included in the estimation since income distribution by State is not included in the model. This third variable adjusts for local trends in income distribution and also reflects coverage changes where a State has a different percentage of covered workers than nationally. The overall specification is shown in equation 5.25.

$$YPCI_t = b_1 + b_2 ET2_t + b_3 YT6_t + b_4 YPCI_{t-1} + b_5 TIME_t + e_t \qquad (5.25)$$

where:

$$ET2 = E * SSC^n * SSP1^n * SSP2^n$$

$$YT6 = \frac{YE * SSP2^n - W}{SSP2^n}$$

YPCI	is personal contributions for social insurance
E	is resident civilian employment
SSP1	is Social Security employee contribution rate
SSP2	is Social Security maximum taxable earnings
YE	is earnings by place of work
W	is wage rate
TIME	is linear time trend

Dividends, interest, and rental income, which primarily represents returns to capital, is estimated based upon a modified factor payments approach. Here the level of output is the primary explanatory variable in the estimation. Since returns to capital are not a constant share of output or income, but vary over time, an adjustment must be made. A rate of return index is constructed as the average of the short- and long-term interest rates and the percent change in the Consumer Price Index. Here the two interest rates serve as a proxy for the dividend and interest payment shares of output, and the Consumer Price Index, for the rate-of-return to rentors. This rate-of-return index is multiplied by the level of output to derive the potential share going to capital payments. A second explanatory variable, the change in constant-dollar output, takes account of short-term variations in the factor payments to capital resulting from business cycle fluctuations and is positively related to the dependent variable. The complete specification of this equation is shown in 5.26.

$$YDIR_t = b_1 + b_2\ QT1_t + b_3\ XF_t + e_t \qquad (5.26)$$

where:

$$QT1 = \frac{Q * FT5M}{100}$$

YDIR	is dividends, interest, and rental income
Q	is total output in current dollars
FPCP	is prime interest rate on commercial paper
FBYA	is long-term bond rate
XF	is first difference of total output in constant dollars

The residence adjustment to a State's personal income results from differences between an employee's place of work and his place of residence. Although most commuting takes place within labor market areas, with States as the basic regions it is not feasible to have a detailed commuting equation. In the estimation of the residence adjustment, it is simply assumed that the worker has been drawn to employment in another State by better job opportunities. Workers will commute when the income or employment opportunities are greater in one State relative to another. Hence, the stochastic estimation of the residence adjustment includes a relative-income and relative-employment explanatory variable.

The income element is an index of disposable personal income per employee in adjacent States divided by disposable personal income per employee in the reference State. The employment segment is structured as an index of employment ratios: employment per working age population in the adjacent States divided by employment per working age population in the reference State.

The lagged dependent variable and time trend are included as the third and fourth explanatory variables in the estimation to account for historical or shifting commuting patterns.

$$YRES_t = b_1 + b_2\ DIER_t + b_3\ ET4_t + b_4\ YRES_{t-1} + b_5\ TIME_t + e_t \qquad (5.27)$$

where:

$$DIER = \frac{DIR}{ET1} * \frac{E}{YT1}$$

$$ET4 = \frac{ET1}{PT2} * \frac{PT5}{E} * 100$$

YRES	is the personal income residence adjustment
DIR	is disposable personal income in adjacent States
ET1	is employment in adjacent States
E	is total employment
YT1	is disposable personal income excluding consumption taxes
PT2	is working age population (18-64) in adjacent States
PT5	is working age population (18-64)

DEMOGRAPHIC SECTOR

This group of stochastically estimated variables includes both population-related variables (five age cohorts, births, and deaths) and unemployment-related variables. The relationships among the variables in this sector are outlined in figure 5.4.

Population

The specification of regional population is based upon a standard 'Growth Composition Analysis' formulation:5/

$$P_t = P_{t-1} + (B_t - D_t) + \theta_t \tag{5.28}$$

Current-period population (P_t) is equal to past-period population (P_{t-1}) plus births (B_t) minus deaths (D_t) and adjusted by the net migration (θ_t). Each of the five cohort variables is estimated stochastically using variations of this standard specification.

In the under-age-5 population, three of the four population variables shown in equation 5.28 are used. The lagged dependent variable accounts for those who were under 4 years old in the past period. The number of births accounts for the majority of new entrants to the cohort. The number of deaths is not included in the estimation due to its small size relative to the total age cohort. In the under 5 as well as the other age cohorts, the attrition due to deaths is assumed to be expressed by the size of the lagged dependent variable coefficient.

Since data on net migration by age cohort are not available, the net migration of total population serves as a proxy. Implicit in the use of this variable is the assumption that the ratio of migration in the youngest age cohort relative to total migrants remains constant. In order to account for a possible shift in the ratio, the linear time trend variable is added to the specification. The complete specification is shown in equation 5.29.

$$PUN5_t = b_1 + b_2\ PUN5_{t-1} + b_3\ B_t + b_4\ PNM_t + b_5\ TIME_t + e_t \tag{5.29}$$

where:

PUN5	is under-age-5 population
B	is number of births
PNM	is net migration
TIME	is linear time trend

The age-5-through-17 population is specified in a similar fashion to the younger cohort. The lagged dependent variable again accounts for almost all of the present-period cohort population. The under-5-cohort lagged variable is included, reflecting the new entrants. Net migration is the third explanatory variable, again reflecting population mobility. The complete specification follows in equation 5.30.

$$P517_t = b_1 + b_2\ P517_{t-1} + b_3\ PUN5_{t-1} + b_4\ PNM_t + e_t \tag{5.30}$$

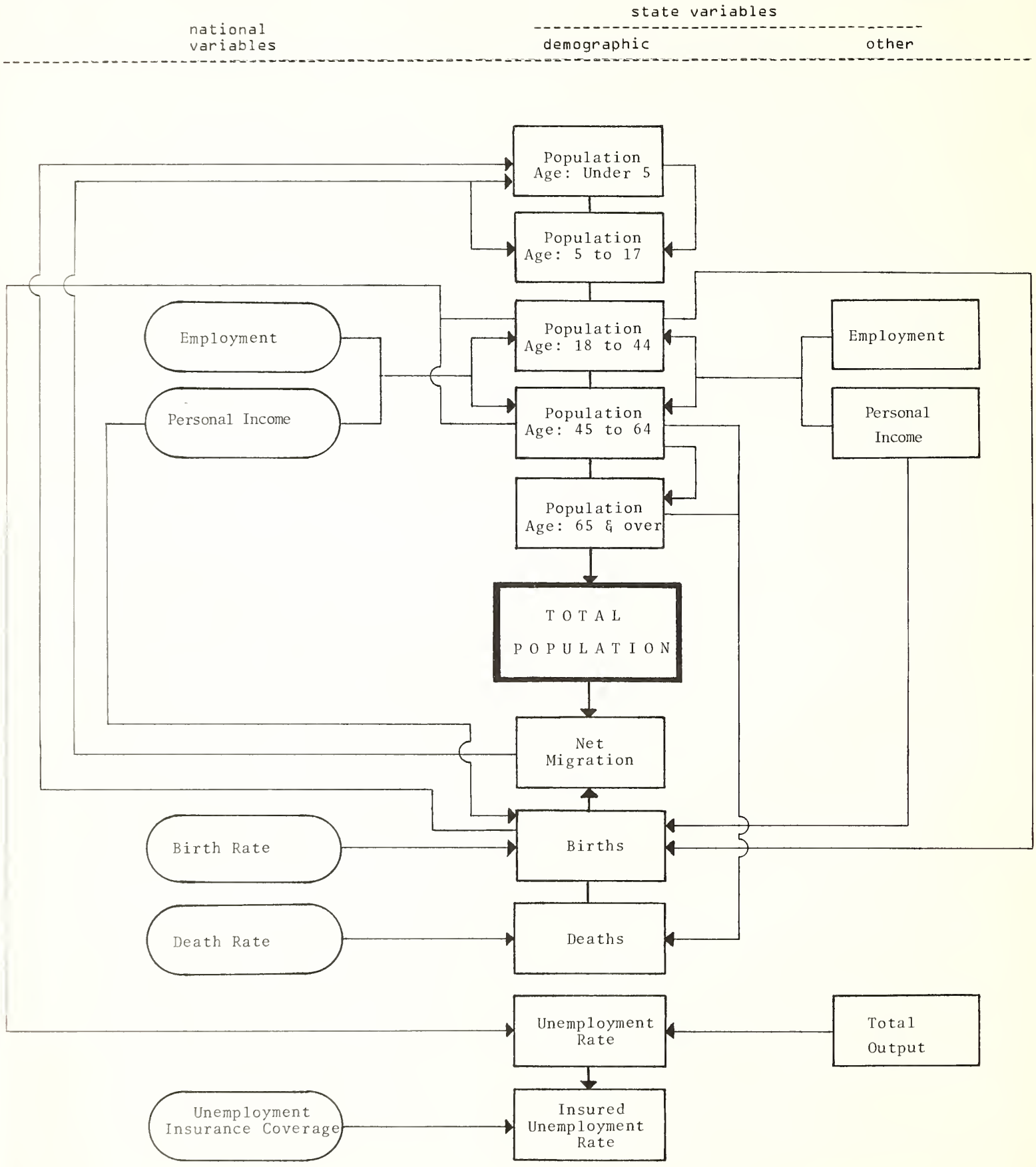
where:

P517	is age-5-through-17 population

---

5. See Isard (1960) for a further discussion of demographic estimation.

Figure 5.4 Demographic Specification



In the "working-age" cohort specifications, the age-18-to-44 population and age-45-to-64 population, the emphasis shifts from aging to mobility characteristics. The lagged dependent variable is included, explaining the (predominant) segment of each cohort that remains unchanged from the preceding period. Since the number of entrants from the younger-age cohort is relatively small, no attempt is made to model this, as was done in the previous two equations. Instead, the focus of the stochastic estimations is on migration-induced changes in population as reflected in relative-employment and relative-income explanatory variables, both of which account for population mobility due to changing economic opportunities.

The employment explanatory variable is the 2-year moving average of the change in the level of regional employment relative to the Nation and reflects the availability of job opportunities. The second explanatory variable reflects the role of income as an inducement to migrate. It is measured as the per capita disposable income in an area relative to the national per capita disposable income. A time trend is added in certain instances to account for the effects of historical changes in environmental attractiveness that draw migrants to an area. The complete specification of population in these two age cohorts is shown in equations 5.31 and 5.32, below.

$$P184_t = b_1 + b_2\, P184_{t-1} + b_3\, ET3_t + b_4\, YT4R_t + b_5\, TIME_t + e_t \qquad (5.31)$$

$$P454_t = b_1 + b_2\, P454_{t-1} + b_3\, ET3_t + b_4\, YT4R_t + b_5\, TIME_t + e_t \qquad (5.32)$$

where:

$$ET3_t = (E^*_t - E^*_{t-1}) - \frac{(E^{*n}_t - E^{*n}_{t-1}) * E^*_t}{E^{*n}_t}$$

$$YT4R = \frac{DPI^*}{P} * \frac{P^n}{DPI^n} * 100$$

P184 is age-18-through-44 population
P454 is age-45-through-64 population
E* is total employment
DPI is disposable personal income
P is total population

The estimation of the oldest cohort, over-age-65 population, is heavily influenced by its locational stability. Accordingly, the previous period cohort population is the primary explanatory variable. The lagged 45-through-64 population variable is used, where appropriate, to account for the new entrants from this population group. The complete specification is shown in equation 5.33.

$$P65+_t = b_1 + b_2\, P65+_{t-1} + b_3\, P454_{t-1} + b_4\, TIME_t + e_t \qquad (5.33)$$

where:

P65+ is age-65-and-above population

Births are estimated using primarily two explanatory variables. The first is an index of the number of people in the State of child-bearing age multiplied by the number of births nationally per child-bearing person. The second is a cyclically related income index where regional per capita disposable personal income is divided by national per capita disposable personal income. The population variable is used in all regional estimations; income is used only in selected cases. A linear time trend is added as a third explanatory variable where regional, historical birth-rate trends are present. This specification is shown in equation 5.34.

$$B_t = b_1 + b_2\ BT1_t + b_3\ YT4R_t + b_4\ TIME_t + e_t \tag{5.34}$$

where:

$$BT1 = \frac{P184 * B^n}{P184^n}$$

Deaths are estimated using two population variables. The first is an index where the State's 65-and-older population is multiplied by the number of deaths nationally per person in this cohort. The second explanatory variable is the age-45-through-64 population. The specification follows in equation 5.35.

$$D_t = b_1 + b_2\ DT1_t + b_3\ P454_{t-1} + e_t \tag{5.35}$$

where:

$$DT1 = \frac{P65+ * D^n}{P65+^n}$$

Net migration is calculated as a residual after accounting for total population, births, and deaths. The specification is shown in equation 5.36.

$$PNM_t = P_t - P_{t-1} - B_t + D_t \tag{5.36}$$

Unemployment

There are two types of unemployment estimated in NRIES: total unemployment, as reported by the Bureau of Labor Statistics, and insured unemployment, as reported by State Employment Security agencies.

In the estimation of the total unemployment rate, there are two principal explanatory variables. The first is long-term demographic trends, represented by the percent change in the working age (18-64 years) population. The second is the change in total output, minus 3 percentage points, which is a rough approximation of productivity advances.6/ This second

6. While the 3-percent rate of productivity is somewhat arbitrary, this figure does generally represent the average productivity advances during the 1950-76 estimation period.

explanatory variable reflects the short-run unemployment changes due to cyclical shifts in local economic activity. Finally, the lagged dependent variable is added, to account for the slow adjustment of unemployment rates to changes in output and labor force trends. The complete specification appears in equation 5.37.

$$UR_t = b_1 + b_2\ PT4_t + b_3\ XT2_t + b_4\ UR_{t-1} + e_t \qquad (5.37)$$

where:

UR	is unemployment rate
PT4	is percent change in the working age population (18-64)
XT2	is percent change in total output minus 3 percent

The insured unemployment is a subset of the total unemployment. In the estimation, the insured rate is thus directly related to the rate of total unemployment and the insurance coverage rate. Due to the complexity of local-coverage regulations, a national insurance coverage rate is used in the specifications. The lagged dependent variable is also included, adjusting for scale and trend factors where State insurance rate trends differ from the national trend. The specification is shown in equation 5.38.

$$UIR_t = b_1 + b_2\ UR_t + b_3\ UICR_t + b_4\ UIR_{t-1} + e_t \qquad (5.38)$$

where:

UIR	is rate of insured unemployment
UICR	is unemployment insurance coverage rate

Given the stochastic estimation of the two unemployment rates, it is possible to calculate the level of the two unemployment categories. The number of total unemployed is calculated as an identity, as shown in equation 5.39. Once total unemployment has been calculated, the labor force can also be derived as the sum of employment and unemployment, as shown in equation 5.40. Insured unemployment, in turn, is derived from the insured unemployment rate and labor force, as shown in equation 5.41.

$$U = \frac{UR * E}{(100 - UR)} \qquad (5.39)$$

$$LF = U + E \qquad (5.40)$$

$$UI = \frac{UIR * LF}{100} \qquad (5.41)$$

where:

U	is number of unemployed
UI	is number of insured unemployed
LF	is labor force
E	is civilian employment

GOVERNMENT FISCAL SECTOR

The State and local government fiscal sector is mainly viewed as a local service industry. Within the fiscal sector, there are three types of variables: revenues from own sources, intergovernmental revenues, and expenditures. In NRIES, each of the three variables is estimated for both State and local governments. Also estimated in this sector are two Federal Government tax equations. The relationships among these variables are presented in figure 5.5.

Own-Source Revenues

Monies collected at the discretion of State and local governments are defined as "own-source" revenues. These include taxes, and charges and miscellaneous receipts. In the model, both types of revenues are determined by the size of the State economy: the levels of local output, personal income, and retail sales. This directly corresponds to the three most important components of the State-local tax base: industrial, household, and commercial.

In the estimation of tax revenues, three explanatory variables that cover the tax base are used. The first is an index: the 2-year moving average of disposable personal income, excluding transfer payments. In the State tax equation, this index accounts for personal income and related taxes. It excludes transfers, which are often exempt from taxes or taxed at lower rates, and personal taxes from other governmental units, since these in effect lower the taxable base. In the local tax equation, the disposable income index correspondingly becomes a proxy for the household (usually property) tax base. The second explanatory variable is the level of output, accounting for corporate business-related taxes in the State equation and the industrial tax base in the local equation. The third is the level of retail sales, reflecting sales taxes and taxes levied on commercial inventories. Given the variety of taxes and rates at the State level and the many different government units at the local level, it is not possible to estimate a rate parameter. Implicitly, however, rate parameters are estimated in each equation, and are reflected through the coefficients b_2 through b_4. In addition, a time trend is sometimes added, accounting for the gradual upward shifting of rates over time. The overall specification of tax revenues is presented in equations 5.42 and 5.43.

$$GSTR_t = b_1 + b_2\ YT3_t + b_3\ RS_t + b_3\ Q_t + b_4\ TIME_t + e_t \qquad (5.42)$$

$$GLTR_t = b_1 + b_2\ GT1_t + b_3\ TIME_t + e_t \qquad (5.43)$$

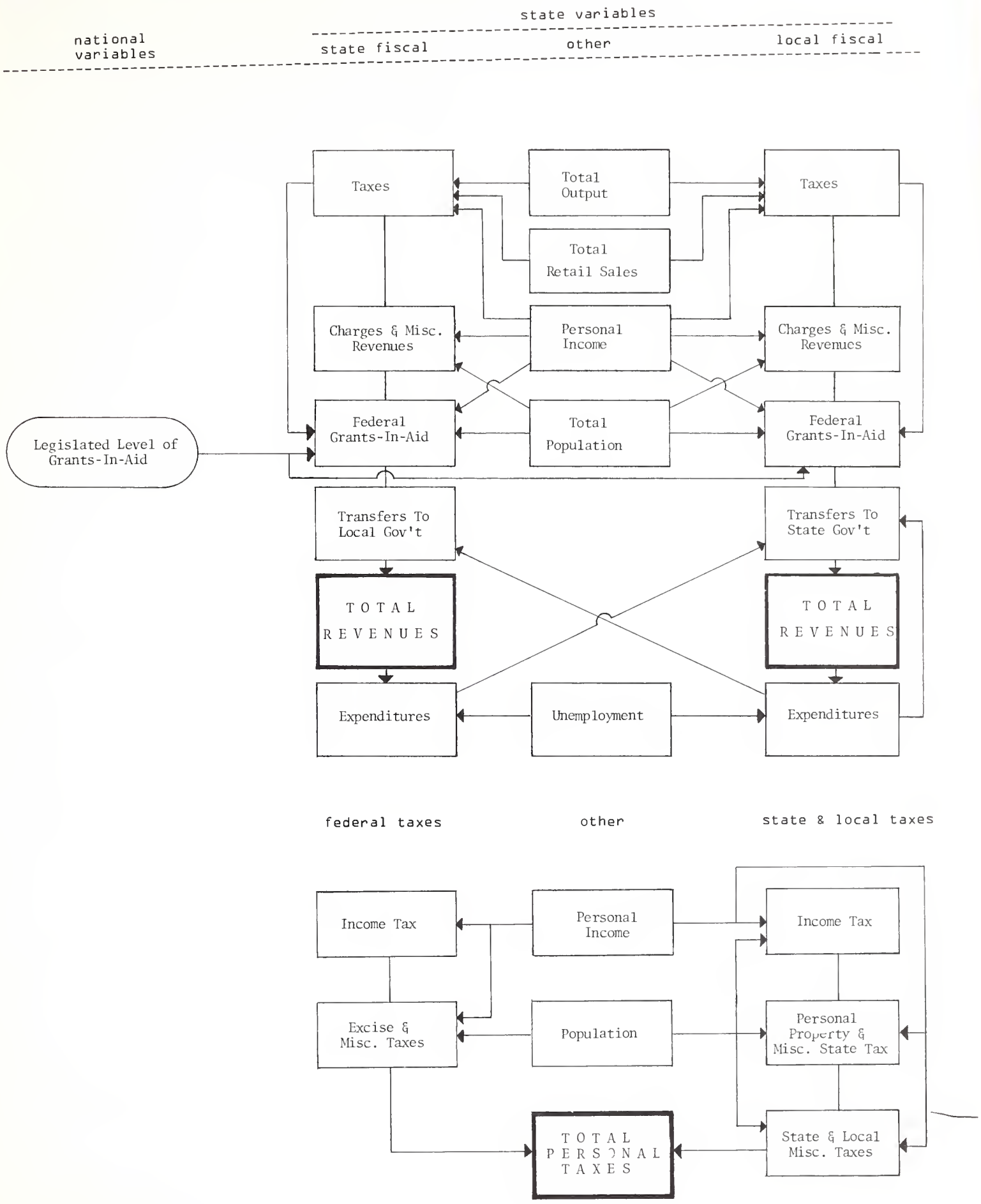
where:

YT3 = DPI - YTRP

GT1 = Q + RS. + YT3

GSTR is State government tax revenues
GLTR is local government tax revenues
DPI is disposable personal income
YTRP is transfer payments
RS is retail sales
TIME is linear time trend

Figure 5.5 Government Specification



Charges and miscellaneous revenues are usually derived from user charges for services that are provided by the governments for their citizens. As with other services, levels tend to vary with changes in income and population. Since rates tend to move slowly, these two explanatory variables are often expressed as 2-year moving averages. This stability is also reflected by a lagged dependent variable that is included as the third explanatory variable in the estimation. The fourth explanatory variable, the change in tax collections in the previous period, takes into account the political nature of the rate and tax base schedules. The premise is that governments, if forced to raise tax revenues in one period, will try to avert further increases by raising the charges and fees in the next. Also, legislated limits on tax revenues in one period will produce increased user charges in the next period.

$$GSMR_t = b_1 + b_2\ YM_t + b_3\ PM_t + b_4\ GSMR_{t-1} + b_5\ GSTF_t + e_t \qquad (5.44)$$

$$GLMR_t = b_1 + b_2\ YM_t + b_3\ PM_t + b_4\ GLMR_{t-1} + b_5\ GLTF_t + e_t \qquad (5.45)$$

where:

GSMR	is State government charges and miscellaneous revenues
GLMR	is local government charges and miscellaneous revenues
YM	is 2-year moving average of total income
PM	is 2-year moving average of population
GSTF	is first difference of State government tax revenues
GLTF	is first difference of local government tax revenues

Intergovernmental Revenues

Four intergovernmental revenue variables are estimated stochastically. The first two, State intergovernmental revenues from the Federal Government and local intergovernmental revenues from the Federal Government are estimated using the same types of explanatory variables: a "need" index and a lagged dependent variable. The basic premise that underlies the specification is that the Federal Government first determines how much money it will distribute and then allocates this amount using a formula that will determine regional shares. In the model, both State and local revenue totals are exogenous at the national level and are used to construct two versions of a three-factor "need" index.7/ Like the revenue-sharing formula, the first version is constructed by multiplying the national total times a share formula: the product of per capita disposable income, population, and tax effort, each relative to its national counterpart. For many Federal programs, however, regions can qualify based upon their population share. To reflect this second version of the revenue-sharing formula, the State allocation of national intergovernmental revenue is determined only by the State's share of population and the national level of intergovernmental revenues. A linear time trend variable is added to the specification to account for any long-term historical trends.

---

7. These three variables, population, per capita income, and tax effort, are those included in one variation of the General Revenue Sharing formula.

These specifications are reflected in equations 5.46 and 5.47.

$$GSFR_t = b_1 + b_2 \begin{bmatrix} GT3_t \\ \text{or} \\ GT4_t \end{bmatrix} + b_3\ GSFR_{t-1} + b_4\ TIME_t + e_t \qquad (5.46)$$

$$GLFR_t = b_1 + b_2 \begin{bmatrix} GT5_t \\ \text{or} \\ GT6_t \end{bmatrix} + b_3\ GLFR_{t-1} + b_4\ TIME_t + e_t \qquad (5.47)$$

where:

$$GT3 = GSFR^n * \frac{GSTR}{GSTR^n} * \frac{DPI^n}{P^n} * \frac{P}{P^n} * \frac{DPI^n}{DPI} * \frac{P}{DPI}$$

$$GT4 = GSFR^n * \frac{P}{P^n}$$

$$GT5 = GLFR^n * \frac{GLTR}{GLTR^n} * \frac{DPI^n}{P^n} * \frac{P}{P^n} * \frac{DPI^n}{DPI} * \frac{P}{DPI}$$

$$GT6 = GLFR^n * \frac{P}{P^n}$$

GLFR is local intergovernmental revenues from Federal Government
P is population

State government expenditures (intergovernmental transfers) to local governments (local government revenue from State government) primarily represents local school aid. The proportion of total State expenditures represented by State transfers is relatively constant in each region. Thus, total State expenditures is the primary explanatory variable. To account for local needs, the change in local government expenditures is added as the second variable. A lagged dependent variable is included to reflect any historical trends. The full specification is presented in equation 5.48.

$$GSXE_t = b_1 + b_2\ GSE_t + b_3\ GLEF_t + b_4\ GSXE_{t-1} + e_t \qquad (5.48)$$

where:

GSXE is State intergovernmental expenditures (transfers) to local governments
GSE is State government expenditures
GLEF is first difference of local government expenditures

The final intergovernmental variable is State government revenues (transfers) from local government. This normally reflects payments to the State for services provided by the State. These payments are usually small in proportion to total local expenditures and occur mainly when the State provides services that the local areas are too small to provide efficiently themselves (e.g., higher education and hospitals). The primary explanatory variable is the level of local government expenditures, with the lagged dependent variable or linear time trend added to account for historical trends. This specification is shown in equation 5.49.

$$GSCR_t = b_1 + b_2\ GLE + b_3 \begin{bmatrix} GSCR_{t-1} \\ \text{or} \\ TIME_t \end{bmatrix} + e_t \tag{5.49}$$

where:

GSCR is State government revenues (transfers) from local governments
GLE is local government expenditures

Expenditures

The third type of fiscal variable in the model is the level of State and local government expenditures. In the estimation of expenditures, two explanatory variables are used. The first, revenues, accounts for the pool of funds that are available for spending. As State and local governments rarely experience shortages of projects to fund, the available revenues are viewed as the major constraint to expenditures. The second, the change in the unemployment rate, is included to account for the budgetary actions commonly associated with cyclical fluctuations in the State economy. This specification is presented in equations 5.50 and 5.51.

$$GSE_t = b_1 + b_2\ GSR_t + b_3\ UX2_t + e_t \tag{5.50}$$

$$GLE_t = b_1 + b_2\ GLR_t + b_3\ UX2_t + e_t \tag{5.51}$$

where:

GSR is State government total revenues
GLR is local government total revenues
UX2 is the first difference in the unemployment rate

Personal Tax and Nontax Payments

As an addition to the State and local government fiscal sector, five personal tax and nontax variables are estimated in NRIES. These personal tax variables include some of the components of the revenue variables above, but they are not directly comparable. The use of these personal tax items in NRIES is primarily to derive disposable personal income as defined by the Bureau of

Economic Analysis.8/ The personal taxes stochastically estimated are: Federal income tax, State income tax, Federal other taxes and nontax payments, State other taxes and nontax payments, and local and nonassignable taxes plus nontax payments.

The estimation of the Federal and State personal income tax variables is based on a hypothetical rate-base tax model:

$$T^i = \sum_{j=1}^{n} C^i_j * r^i_k * B^i_j \tag{5.52}$$

Here, the collection of tax type i (T^i) is a function of the rate of taxation (r^i_j), the tax base (B^i_j), and the effective rate of collection (C^i_j). For each tax type, there is usually more than one base-rate combination, hence, the equation is summed over j, accounting for each of the matching combinations. For example, in the calculation of total Federal income taxes, the tax rate varies as the base (the level of income) changes. This calculation can be further complicated by a more precise definition of the base, which changes depending on the type of income (e.g., earned versus unearned income).

The method of estimation in equation 5.52, although desirable, is not practicable given the large number of parameters involved. Instead, the basic structure of the equation is applied in a simplified version. The primary simplifying assumption is shown in equation 5.53.

$$\frac{1}{n} \sum_{j=1}^{n} \left\{ C^i_j * r^i_j * \frac{B^i_j}{B^i} \right\} = b_1 + b_2 \, TIME_t + m_t \tag{5.53}$$

In equation 5.53, the effective rate of tax collection is related to a linear time trend. The assumption is that even with changing individual rates, an aggregate tax rate will follow a more gradual and easily defined pattern. The ratio of B^i_j to B^i is the proportion of the total tax base that is applicable at each rate; the term m_t is the stochastic error.

The amount of Federal and State income taxes collected is stochastically estimated by the combination of equations 5.52 and 5.53. Earnings is used as an estimator of the base for both the Federal and State equations. The State equations also contain an additional explanatory variable: per capita disposable personal income in the State relative to that in the Nation. This adjusts for the possibility of variations in the effective tax rate resulting from variations in the relative tax base level in the State. These specifications are shown in equations 5.54 and 5.55.

---

8. According to the national income and products accounts definition, disposable personal income is equal to total personal income minus all personal tax and nontax payments. The reader should be aware, however, that this definition of personal tax and nontax payments does not include many important sources of government tax revenues, such as sales and property taxes.

$$TFI_t = b_1 + b_2\ YE_t + b_3\ YET_t + e_t \tag{5.54}$$

$$TSI_t = b_1 + b_2\ YE_t + b_3\ YET_t + b_4\ YT4R_t + e_t \tag{5.55}$$

where:

$$YET = \frac{YE * TIME}{100}$$

YT4R is defined in equation 5.38
TFI is Federal personal income taxes
YE is total earnings (by place of work)
TSI is State personal income taxes

Three other tax variables are estimated: Federal and State other taxes, and local and nonassignable taxes and nontax payments. These types of taxes are generally user or excise charges and are directly affected by changes in local personal income and population. Since most of these taxes are changed by legislation, they are relatively stable from year to year. Reflecting this, the lagged dependent variables are included in the estimations.

For the estimation of both the State and local equations, total income and population variables are used. The Federal equation is modified to take into account first, that these Federal taxes are more nonwage or wealth-oriented, and second, that a large portion of these taxes originates from estate taxes. Because of this, returns to capital are more relevant than income before taxes, and the older age population is a more significant population variable. These specifications are shown in equations 5.56 through 5.58.

$$TFO_t = b_1 + b_2\ YDIR_t + b_3\ P65+_t + b_4\ TFO_{t-1} + e_t \tag{5.56}$$

$$TSO_t = b_1 + b_2\ Y_t + b_3\ P_t + b_4\ TSO_{t-1} + e_t \tag{5.57}$$

$$TLN_t = b_1 + b_2\ Y_t + b_3\ P_t + b_4\ TLN_{t-1} + e_t \tag{5.58}$$

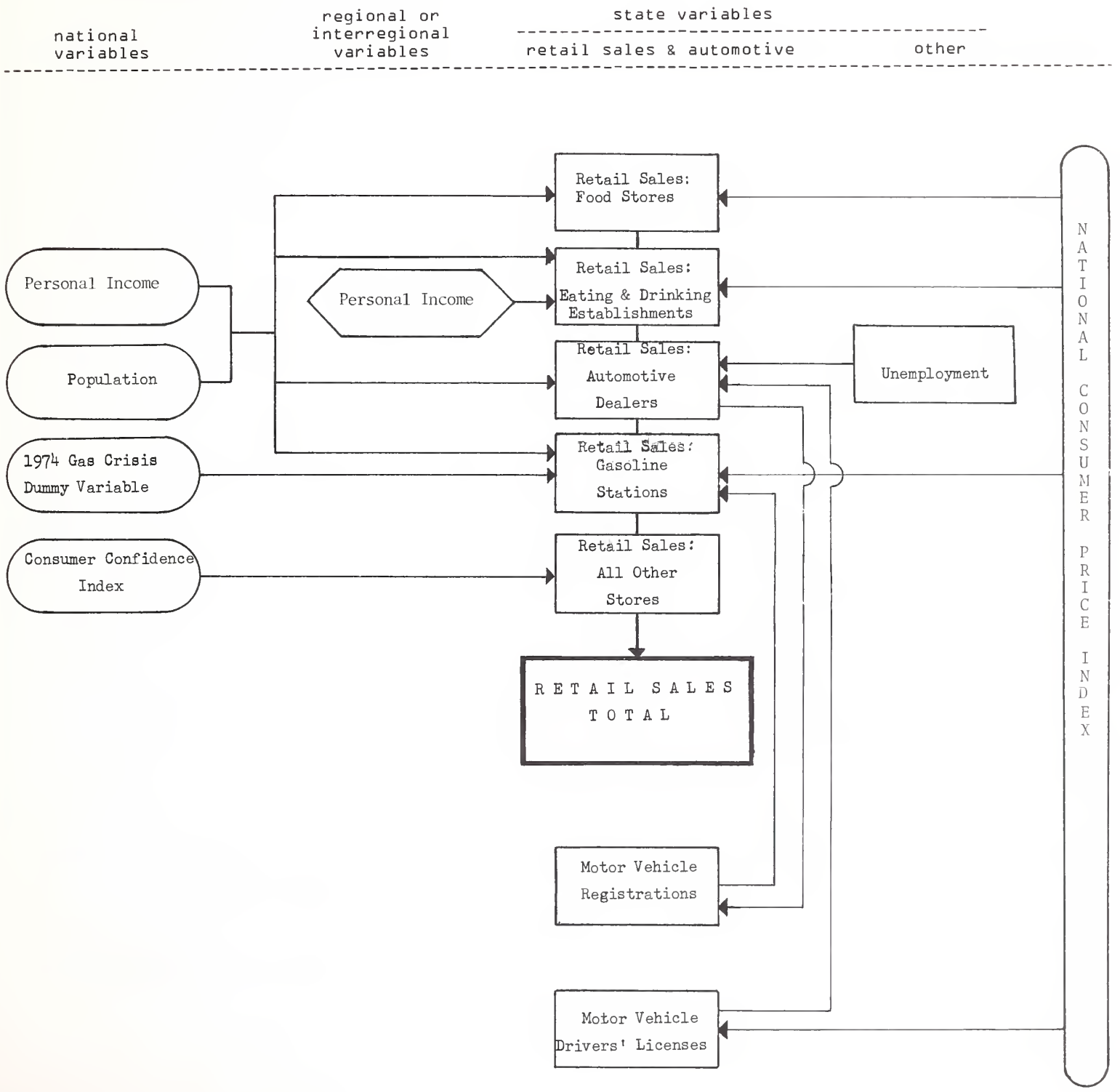
where:

TFO is other Federal taxes
YDIR is dividend, interest, and rental income
P65+ is 65-and-over population
TSO is other State taxes
TLN is local and nonassignable taxes and charges

RETAIL SALES AND AUTOMOTIVE SECTOR

Five retail sales equations are specified using a modified Slutsky-Shultz formula. Here, retail sales, a proxy for personal consumption expenditures, are primarily determined by the level of State demand, represented by personal income and population, and the relative price levels of different commodity groups. Since there are normally some differential purchasing characteristics or interregional flows associated with each type of retail sales, an additional behavioral variable is often added to the specification. Figure 5.6 outlines the basic relationships incorporated in this sector.

Figure 5.6 Retail Sales & Automotive Specification



Sales of food stores is a composite of two major types of spending: necessary and discretionary. The level of necessary purchases is defined as being directly proportional to the population. adjusted by the price of food. An index is constructed to reflect this "necessity demand" by multiplying local population by the consumer price index for food-at-home items.

For the discretionary portion of retail food purchases, disposable personal income is used. This reflects an income, or Engle curve, effect, where higher quality and luxury goods are purchased in increasing amounts with increased disposable income. At the same time, however, the total income elasticity should stay between zero and one.9/

In order to adjust for the substitution effect between grocery stores and eating establishment purchases, an index of the ratio of food prices at home to food prices away from home is added to the estimation. The complete specification appears in equation 5.59.

$$RSF_t = b_1 + b_2\ PT8_t + b_3\ YT1_t + b_4\ DCT1_t + e_t \qquad (5.59)$$

where:

$$PT8 = P * DCFH^n$$

$$DCT1 = \frac{DCFH^n}{DCFX^n} * 100$$

RSF	is food store retail sales
P	is population
YT1	is personal income minus all (model) taxes
DCFH	is consumer price index for food-at-home
DCFX	is consumer price index for food-away-from-home

The equation for the retail sales of eating and drinking establishments is specified in a manner similar to that for food store sales. Population and prices are again combined in an index; here total population is multiplied by the consumer price index for food away from home. This reflects population-related sales and is augmented by an income-related explanatory variable, disposable personal income. As would be expected, eating out is more of a discretionary purchase, and, therefore, disposable income is usually more significant in the food-away-from-home estimation. The same ratio of food prices at home to food prices away from home adjusts for the substitution effect between grocery stores and eating establishments.

Where tourism is an important component of a State's economy, either disposable personal income in adjacent States or interactional disposable personal income for the Nation, whichever is more applicable, is added to the specification. The complete specification appears in equation 5.60.

$$RSED_t = b_1 + b_2\ PT9_t + b_3\ YT2_t + b_4\ DCT1_t + b_5 \begin{bmatrix} DIR_t \\ \text{or} \\ IDPI_t \end{bmatrix} + e_t \qquad (5.60)$$

---

9. There is little economic rationale to justify a long-term income elasticity greater than one for food sales.

where:

$$PT9 = P * DCFX^n$$

RSED is retail sales of eating and drinking establishments
DIR is disposable personal income for adjacent States
IDPI is interactional (distance-deflated) disposable personal income

Auto sales are influenced by the size of the State economy, the relative price of new automobiles, and the business cycle. The economic demand variable is specified in one of two ways, either as a multiplicative index of the number of local drivers and the consumer price index for new automobiles, or as disposable personal income minus transfer payments. The former demand variable, used in States with more stable economies, provides an estimate of the current-dollar purchasing power base. The latter variable excludes transfer payments as a simple attempt to remove nonauto-buying consumer dollars.

Like the other types of retail sales discussed thus far, a relative price variable accounts for price substitution effects; it is constructed as the ratio of the consumer price index for new automobiles relative to the consumer price index for all purchases. A business cycle index is included, because auto purchases are more volatile than most other retail sales since they are dependent on the expectations of individuals concerning their levels of future income. The change in the unemployment rate is used to reflect consumer confidence, which is expected to have a negative relationship with auto sales. The full specification appears in equation 5.61.

$$RSA_t = b_1 + b_2 MVT1_t + b_3 DCT5_t + b_4 UT2_t + e_t \qquad (5.61)$$

where:

$$MVT1 = MVLD * DCAN^n$$

$$DCT5 = \frac{DCAN^n}{DC^n} * 100$$

RSA is retail sales of automobiles
MVLD is number of licensed drivers
DCAN is consumer price index, new automobiles
UT2 is first difference in the unemployment rate

Two other variables are included in the automotive sector: the number of registrations and motor vehicle drivers' licenses. They have been added to the model because of the high quality of the data and their potential for explaining certain transportation and energy use patterns.

The basis for the estimation of motor vehicle registrations is the aging and new entrants process similar to that used to estimate the under-age-5 population. Here, registrations in the previous period are the primary explanatory variable, accounting for approximately 80 percent of the present period level. The major source of new registrations is new auto sales: the (deflated) retail sales of auto dealers. A linear time trend is added as a third explanatory variable to account for gradual changes in the real costs of new automobiles (e.g., quality advancements, additional optional equipment, and servicing patterns) and obsolescence rates. This specification is shown in equation 5.62.

$$MVR_t = b_1 + b_2 MVR_{t-1} + b_3 RSA^*_t + b_4 TIME_t + e_t \qquad (5.62)$$

where:

MVR	is number of motor vehicle registrations
RSA*	is retail sales of automobiles in constant (1972) dollars
TIME	is linear time trend

Motor vehicle drivers' licenses are estimated primarily from the adult population, which serves as the pool of eligible drivers. In addition, per capita real disposable income is used, reflecting the fact that affluence tends to increase mobility and hence the number of drivers' licenses per capita. Finally, the lagged dependent variable is often added to reflect the local licensing laws (e.g., multiyear licensing) that affect the data and the estimation. This specification is represented in equation 5.63.

$$MVLD_t = b_1 + b_2\ PT1_t + b_3\ YT5_t + b_4\ MVLD_{t-1} + e_t \qquad (5.63)$$

where:

$$YT5 = \frac{DPI^*}{P}$$

PT1	is 18-and-over population
DPI*	is disposable personal income in constant (1972) dollars

The retail sales of gasoline and service stations are mainly related to the number of local autos and the cost of gasoline. The number of registered motor vehicles inflated by the consumer price index for gasoline is the primary demand variable. This specification of the demand variable reflects the implicit assumption that the effect of disposable income on gasoline consumption is revealed by the number of cars in operation rather than by the level of driving.

Current-dollar retail sales of gasoline stations, however, are not entirely income-inelastic. Consumers have the option of switching to other modes of transportation (bus, train, and plane) when faced with increases in the relative price of gasoline. Although the alternative modes of transportation often use gasoline, it is not sold by most retail outlets. For this price substitution variable, the ratio of the consumer price index for gasoline to the total consumer price index is used.

Due to the unusual circumstances and economic effects of the 1974 petroleum crisis, a dummy variable has been added. The complete specification appears in equation 5.64.

$$RSGS_t = b_1 + b_2\ MVT2_t + b_3\ DCT6_t + b_4\ DU74_t + e_t \qquad (5.64)$$

where:

$$DCT6 = \frac{DCG^n}{DC^n} * 100$$

$$MVT2 = MVR * DCG^n$$

RSGS	is retail sales of gasoline stations
DCG	is consumer price index for gasoline
DU74	is a dummy binary variable (1 in 1974 and 0 in all other years)

Other retail sales is a composite of a large number of durables and nondurables components. A price substitution index is therefore not possible. The principal explanatory variables are thus related to demand and consumption/savings patterns. As before, necessary demands are derived using a population base that is constructed by multiplying local population by the Consumer Price Index. For luxury or discretionary demand, disposable personal income is used. To account for business cycle effects on discretionary purchases, the consumer confidence index (Conference Board) is added to the equation. Here it is assumed that an increased stability or confidence will increase the marginal propensity to consume (and decrease the savings rate), thereby raising retail purchases. The specification is shown in equation 5.65.

$$RSO_t = b_1 + b_2\ PT6_t + b_3\ YT1_t + b_4\ CCI_t + e_t \qquad (5.65)$$

where:

PT6 $= P * DC^n$

RSO is all other retail sales in current dollars
CCI is consumer confidence index

NATIONAL MODEL

Equations 4.5 and 4.7 of the previous chapter show the implicit national model contained in NRIES. The majority of the national variables are derived from activity estimated at the State level and aggregated to a U.S. total. It is usually necessary for multiregional models, whether top-down or bottom-up, also to have some nationally determined (nonregional) variables. There are two reasons for this, one theoretical and one empirical. First, some variables theoretically show no regional variation and are therefore most appropriately modeled nationally. For example, most interest rates are not likely to vary across States because of the mobility in capital markets. Similarly, Federal monetary and fiscal policies are typically formulated with no specific spatial distinctions. Second, accurate estimates of some variables are unobtainable at the regional level. For example, no consistent and comprehensive data at the State level are available for either prices or investment.

Table 5.1 summarizes the structure of the NRIES national model. In the left column, are the national variables derived by aggregating State estimates. These variable groups correspond to the definitions found in sections 5.1 through 5.6 of the text. As we have already indicated, this category contains by far the largest number of variables (264) and is the most heavily emphasized in the multiregion model structure. The three right-hand columns contain the national variable groups that are estimated only nationally and have no regional detail. There are a total of 98 variables within these groups: 20 stochastically estimated, 39 identities, and 39 exogenous. Most of the stochastic variables have been estimated nationally because of the lack of regional data. Most of the exogenously determined variables are related either to Federal policy or to the agriculture and mining industrial sectors.

The remainder of this section lists and describes the 20 stochastic national equations in NRIES. In this section, for each of the stochastic equations, the coefficient estimates and error statistics are given. The values of the t-tests are shown in brackets below the coefficients. D-W refers to the Durbin-Watson statistic for autoregressive errors. Figure 5.7 shows the basic relationships determining the national stochastic variables.

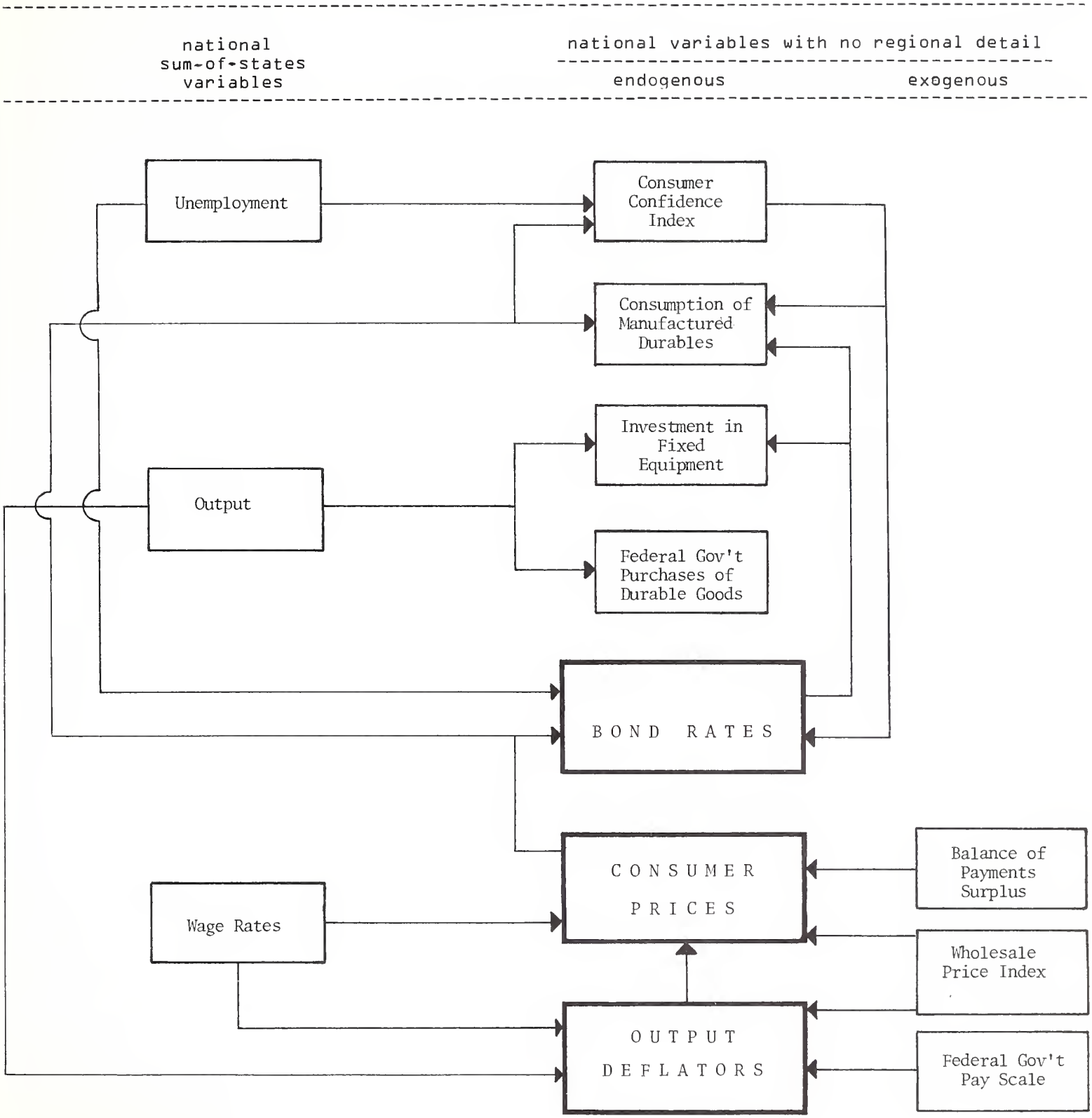
The consumer confidence index (Conference Board) is a measure of consumers' perceptions of the economy's well-being. As such, it tends to be most affected by the more widely publicized, or "conspicuous," economic indicators. The stochastic estimation of the consumer confidence index is based on the traditional discomfort index theories, where the change in the Consumer Price Index and the level of the unemployment rate are the primary explanatory variables. A lagged dependent variable is added to account for trending and for information dispersal. The exact specification is shown in equation 5.66.

Table 5.1

Major Variable Groups in the NRIES Implicit National Model

National Sum-of-State Variable Groups	National Variable Groups With No Regional Detail		
	Endogenous		Exogenous
	Behavioral	Identities	
Industrial Output	Consumer Confidence Index	Consumption	Armed Forces Personnel by Service
Industrial Employment	Consumption Ratio of Income	Investment	Agriculture, Mining Output Deflators
Industrial Productivity	Investment Ratio of Output		Minimum Wage Rate
Industrial Wage Rates	Federal Government Purchases		Union Wage Rates
Sources of Personal Income	Interest Rate		Wholesale Price Index
Population	Consumer Prices		Balance of payments
Unemployment	Output Deflators		Federal Pay Scale
State & Local Government Fiscal			Farm Production
Personal Taxes			Mining Production
Retail Sales			Federal Expenditures
Automotive			Social Security Taxes & Benefits

Figure 5.7 National Specification



$$CCI_t^n = 105.37 - \underset{(4.11)}{3.6654}\ DCP_t^n - \underset{(1.81)}{3.5445}\ UR_t^n + \underset{(2.02)}{0.3191}\ CCI_{t-1}^n \qquad (5.66)$$

where:

CCI	is consumer confidence index
DCP	is change in Consumer Price Index
UR	is unemployment rate

Estimation Period: 1956 to 1977

R^2 : 0.773
D-W: 1.676

The index of consumer purchases of durables is estimated as the ratio of real (constant-dollar) consumer expenditures on durables per dollar of real disposable personal income. In the model, this variable is used as a proxy for the marginal propensity to consume durable goods and helps to define the disproportional effects that changes in the business cycle will have upon the output of durables manufacturing. In the specification, it is assumed that the consumption ratio is fundamentally stable but will vary depending on certain factors related to industry-specific or business cycle phenomena.

The first explanatory variable is the change in the level of consumer confidence. Consumers' perceptions of the future have traditionally affected the overall marginal propensity to consume. The consumption of the more expensive durables, such as automobiles, is particularly volatile. The second explanatory variable is the price of durables relative to other goods. This variable accounts for consumer substitutions between goods. The real cost of borrowing, the difference between the bond rate and inflation rate, is the third explanatory variable. The marginal propensity to consume durable goods will increase when this difference is negative, reflecting the fact that the consumer can buy more now rather than save and buy later. Finally, a time trend is added to account for remaining unspecified effects, notably the historical trend toward an increase in consumer durables consumption as a percent of total consumption. The marginal propensity to consume durables has increased from 11 to 14 percent over the past 20 years, with the time trend accounting for a significant proportion of this variation. The exact specification is shown in equation 5.67.

$$CMDX_t^n = 23.06 + \underset{(3.31)}{0.0274}\ CCIP_t^n - \underset{(2.93)}{0.1101}\left\{\frac{DQMD^n}{DQ^n} * 100\right\}_t \qquad (5.67)$$

$$- \underset{(0.82)}{0.0657}\left\{FBYA^n - DCP^n\right\}_t + \underset{(1.55)}{0.0673}\ TIME_t$$

where:

CMDX	is index of consumer purchases of durables
CCIP	is change in consumer confidence level
DQMD	is durables output implicit price index
DQ	is total output implicit price index
FBYA	is long-term bond rate
DCP	is change in Consumer Price Index
TIME	is linear time trend

Estimation Period: 1956 to 1977

R^2 : 0.907
D-W: 1.957

Like the consumer purchases variable, investment in fixed equipment is estimated as a ratio: the real investment in fixed equipment per dollar of real gross domestic product. Although more volatile than consumer purchases, investment is assumed to be a fairly stable component of the domestic product, varying because of changes in demand and cost factors.

The first explanatory variable is the ratio of manufacturing to total output. Since a much higher investment per dollar of output occurs in manufacturing, a change in the manufacturing industry's share of economic activity would correspondingly affect investment. The next explanatory variable is the real cost of borrowing, which is used to measure the same effects as in the consumption equation described above. Finally, because of such factors as environmental and other government regulations, the investment share of the domestic product in the last 20 years has increased from about 5.5 to 7.0 percent. Since these regulatory actions are not elaborated in NRIES, a time trend variable is used to account for this increase. The exact specification of this variable appears in equation 5.68.

$$IFEX^n_t = -2.99 + \underset{(9.75)}{0.3272}\left\{\frac{XM^n}{X^n} * 100\right\}_t - \underset{(7.57)}{0.1748}\left\{FBYA^n - DCP^n\right\}_t + \underset{(15.3)}{0.077}\ TIME_t \tag{5.68}$$

where:

IFEX	is investment in fixed equipment
XM	is output in manufacturing
X	is total output

Estimation Period: 1956 to 1977

R^2 : 0.960
D-W: 1.120

There are two financial variables that are estimated nationally in NRIES. The first is the prime commercial (4-6 month) paper rate. Since this rate is significantly affected by Federal Reserve Board policies, the specification reflects this policy orientation. Three explanatory variables are used. First, the change in the Consumer Price Index reflects the assumption that the short-term bond rate is directly affected by Federal Reserve attempts to counter inflation. An increase in inflation triggers corresponding Federal Reserve action, which tends to increase the short-term bond rate. The second and third explanatory variables are related to unemployment. The unemployment rate level is included since high levels of the unemployment rate encourage the Federal Reserve to stimulate the economy, resulting in a lowering of short-term interest rates. The change in the unemployment rate is also included, since such changes will have a further effect on interest rates as the Federal Reserve responds to "even out" business cycle fluctuations. The exact specification is shown in equation 5.69.

$$FPCP^n_t = 5.28 + \underset{(11.3)}{0.6906}\ DCP^n_t - \underset{(3.92)}{0.5127}\ UR^n_t - \underset{(1.52)}{0.2479}\ UX2^n_t \tag{5.69}$$

where:

FPCP	is prime commercial paper rate
UX2	is change in the unemployment rate

Estimation Period: 1956 to 1977

R^2 : 0.861
D-W: 1.098

The second financial variable, the long-term (Moody's average) bond rate, fluctuates in a manner similar to the prime commercial paper rate. The first explanatory variable, the prime commercial paper rate, is included in the estimation since the long-term rate will normally be slightly higher (an estimated 2 percentage points) than the short-term rate, due to the risks inherent in commiting funds for a lengthy period of time. Additional explanatory variables are the consumer confidence index, which is a proxy for speculative risk affecting the long versus short margin, and the lagged dependent variable, the long rate taking more time to adjust than the short. The exact specification is shown in equation 5.70.

$$FBYA^n_t = 1.95 + \underset{(7.47)}{0.2980} \; FPCP^n_t - \underset{(1.74)}{0.0118} \; CCI^n_t + \underset{(8.90)}{0.6701} \; FBYA^n_{t-1} \qquad (5.70)$$

Estimation Period: 1958 to 1977

R^2 : 0.979
D-W: 1.868

The level of State and local government expenditures on durable goods is estimated in constant dollars, primarily as a function of the level of output in the State and local government sector. A time trend captures the effect of remaining factors, the most notable being the shift over time away from durables purchases as a proportion of output.

$$GELD^n_t = -3.37 + \underset{(8.62)}{0.1445} \left\{\frac{XGLS^n}{1000}\right\} + \underset{(4.43)}{0.2398} \; TIME_t \qquad (5.71)$$

where:

GELD is State and local government expenditures of durables
XGLS is State and local government output

Estimation Period: 1958 to 1977

R^2 : 0.995
D-W: 1.053

Five consumer price variables are estimated nationally in NRIES: the average index for all commodities in 50 SMSA's, the personal consumption expenditures deflator, and the indices for food at home, food away from home, and new automobiles.

The average index for all commodities in 50 SMSA's is estimated directly in NRIES, since not all of the commodity types are included in the model. Four explanatory variables, divided into two groups, are used. The first, and most important, group is the input costs and the average wage rate for labor costs. The second group of explanatory variables is more behavioral in nature. The balance-of-payments deficit, as a proportion of GNP, takes into account the influence of foreign trade and foreign exchange rates on domestic prices. The final explanatory variable, the catchup price index adjustment (see equation 5.23 for a discussion of the properties of this variable), is applicable in periods when there is a rapid acceleration or deceleration of the inflation rate. The complete specification follows in equation 5.72.

$$DC^n_t = 0.18 + \underset{(12.7)}{0.4482}\ DW^n_t + \underset{(1.01)}{0.0112}\ TRDX^n_t + \underset{(9.64)}{0.0586}\ W^n_t + \underset{(0.28)}{0.00055}\ DCT2^n_t \qquad (5.72)$$

where:

$$DCT2 = DCP^n_t - \left\{ \frac{DCP^n_{t-1} + DCP^n_{t-2}}{2} \right\}$$

DC	is Consumer Price Index, all items
DW	is wholesale price index, all items
TRDX	is trade deficit (surplus) as a percent of GNP
W	is wage rates, all-industry average

Estimation Period: 1956 to 1977

R^2: 0.997
D-W: 1.054

The personal consumption expenditures (PCE) implicit price deflator is an index similar to the Consumer Price Index, differing primarily in terms of computational methodologies.10/Therefore, the equation for the PCE deflator merely focuses on the relationship of these indexes, adding a time trend to account for other effects, notably coverage and substitution changes over time. The complete specification follows in equation 5.73.

$$DPCE^n_t = 0.07 + \underset{(93.6)}{0.7063}\ DC^n_t + \underset{(5.84)}{0.00222}\ TIME_t \qquad (5.73)$$

where:

DPCE is personal consumption expenditures deflator

Estimation Period: 1958 to 1977

R^2 : 0.999
D-W: 2.136

In the estimation of the individual commodity-type indexes, the consumer price indexes for food at home, for food away from home, and for new automobiles, a single specification is applied. The price level for a particular commodity is expressed as a function of all, or a composition of, four types of variables: an applicable industry price level reflects the cost of the raw material inputs; an applicable industry wage rate reflects the cost of labor inputs; a time trend is employed to reflect historical factors; and a lagged dependent variable accounts for the slowness in the adjustment process. The complete specifications are shown in equations 5.74 through 5.76.

---

10. The main difference is that the consumer price index uses a 'fixed weight' methodology, where a market basket of goods remains the same over time and only the price changes are recorded. The implicit price deflator for PCE has a base that changes over time, and, thus, both price and substitution changes are recorded.

$$DCFH^n_t = -0.17 + \underset{(3.77)}{0.2584}\ DQAF^n_t + \underset{(10.6)}{0.2245}\ WWRT^n_t - \underset{(5.85)}{0.0232}\ TIME_t \qquad (5.74)$$

Estimation Period: 1956 to 1977

R^2 : 0.989
D-W: 1.188

$$DCFX^n_t = -0.14 + \underset{(2.76)}{0.0896}\ DQAF^n_t + \underset{(2.08)}{0.0562}\ WWRT^n_t + \underset{(5.81)}{0.7624}\ DCFX^n_{t-1} \qquad (5.75)$$

Estimation Period: 1956 to 1977

R^2 : 0.998
D-W: 1.635

$$DCAN^n_t = 0.19 + \underset{(1.62)}{0.1334}\ DW^n_t + \underset{(0.81)}{0.01301}\ WM^n_t - \underset{(1.41)}{0.00519}\ TIME_t \qquad (5.76)$$

Estimation Period: 1956 to 1977

R^2 : 0.975
D-W: 1.508

where:

DCFH	is consumer price index, food at home
DCFX	is consumer price index, food away from home
DCAN	is consumer price index, new automobiles
DQAF	is output implicit price deflator, agriculture, forestry, and fisheries
WM	is wage rate, manufacturing
WWRT	is wage rate, wholesale and retail trade

Implicit price deflators for output are estimated for each of seven industrial categories: contract construction; manufacturing durables; manufacturing nondurables; transportation, communication, and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Like the consumer (commodity) price indexes, the estimation of the output deflator indexes emphasizes raw material and wage cost explanatory variables. Material costs are accounted for by the wholesale price index, and wage costs, by the average wage rate in the particular industry. In addition, the equations include the percent change in real industry output as a proxy for capacity utilization and profit rates. The inverse relationship between change in output and prices suggests that, on average, these industries are operating on the declining portion of their cost curves. Again, like the commodity equations, a time trend or lagged dependent variable is employed to adjust for the historical price or quality trends and slowness in the adjustment process, respectively. These specifications are shown in equations 5.77-5.83.

$$DQCC^n_t = -0.26 + \underset{(2.36)}{0.2178}\ DW^n_t + \underset{(7.61)}{0.0784}\ WCC^n_t - \underset{(2.75)}{0.00260}\ \%XCC^n_t \qquad (5.77)$$

Estimation Period: 1956 to 1977

R^2 : 0.995
D-W: 1.296

$$CQMD^n_t = 0.06 + \underset{(5.51)}{0.2043}\ DW^n_t + \underset{(1.46)}{.00694}\ WM^n_t - \underset{(2.45)}{0.00101}\ \%XMDR^n_t \qquad (5.78)$$

$$+ 0.6440\ DQMD^n_{t-1}$$

Estimation Period: 1956 to 1977

R^2 : 0.996
D-W: 2.590

$$DQMN^n_t = 0.20 + \underset{(4.92)}{0.2223}\ DW^n_t + \underset{(1.91)}{.00769}\ WM^n_t - \underset{(3.66)}{0.00300}\ \%XMND^n_t \qquad (5.79)$$

$$+ \underset{(4.20)}{0.4895}\ DQMN^n_{t-1}$$

Estimation Period: 1956 to 1977

R^2 : 0.994
D-W: 2.115

$$DQCU^n_t = 0.04 + \underset{(1.83)}{0.0712}\ DW^n_t + \underset{(2.57)}{0.00752}\ WTCU^n_t + \underset{(3.72)}{0.00356}\ \%XTCU^n_t \qquad (5.80)$$

$$+ 0.8278\ DQTU^n_{t-1}$$

Estimation Period: 1956 to 1977

R^2 : 0.997
D-W: 2.058

$$DQWR^n_t = 0.00 + \underset{(3.32)}{0.1504}\ DW^n_t + \underset{(4.96)}{0.00583}\ WWRT^n_t - \underset{(2.21)}{0.00272}\ \%XWRT^n_t \qquad (5.81)$$

$$+ \underset{(3.06)}{0.4094}\ DQWR^n_{t-1}$$

Estimation Period: 1956 to 1977

R^2 : 0.997
D-W: 1.653

$$DQFR^n_t = 0.07 + \underset{(2.95)}{0.0507}\ DW^n_t + \underset{(3.09)}{0.0366}\ WFIR^n_t - \underset{(4.80)}{0.00497}\ \%XFIR^n_t + \underset{(3.21)}{0.5287}\ DQFR^n_{t-1} \quad (5.82)$$

Estimation Period: 1956 to 1977

R^2 : 0.998
D-W: 1.419

$$DQSR^n_t = -0.01 + \underset{(5.19)}{0.0950}\ DW^n_t + \underset{(4.31)}{0.0625}\ WSER^n_t - \underset{(2.46)}{0.00277}\ \%XSER^n_t + \underset{(3.03)}{0.4317}\ DQSR^n_{t-1} \quad (5.83)$$

Estimation Period: 1956 to 1977

R^2 : 0.999
D-W: 2.242

where:

DQCC	is output implicit price deflator, contract construction
DQMD	is output implicit price deflator, manufacturing durables
DQMN	is output implicit price deflator, manufacturing nondurables
DQTU	is output implicit price deflator, transportation, communication, and public utilities
DQWR	is output implict price deflator, wholesale and retail trade
DQFR	is output implicit price deflator, finance, insurance, and real estate
DQSR	is output implicit price deflator, services
WCC	is wage rates, contract construction
WTCU	is wage rates, transportation, communication, and public utilities
WFIR	is wage rates, finance, insurance, and real estate
WSER	is wage rates, services
%XCC	is the percent change in real output, contract construction
%XMDR	is the percent change in real output, manufacturing durables
%XMND	is the percent change in real output, manufacturing nondurables
%XTCU	is percent change in real output, transportation, communication, and public utilities
%XWRT	is percent change in real output, wholesale and retail trade
%XFIR	is percent change in real output, finance, insurance, and real estate
%XSER	is percent change in real output, services

Because of the nature of government output, it is necessary to modify the specification of its component deflator from those of other industries. For the Federal Government implicit price output deflator, the primary explanatory variable is an index of cumulative Federal pay (cost-of-living) increases, as legislated. A time trend and lagged dependent variable are included to

account for the shifting over time of the occupational composition of Federal employees. This specification is shown in equation 5.84.

$$DQFG^n_t = -0.14 + \underset{(3.76)}{.00309}\ GFPC^n_t - \underset{(1.88)}{0.00597}\ TIME_t + \underset{(4.40)}{0.5681}\ DQFG^n_{t-1} \qquad (5.84)$$

Estimation Period: 1956 to 1977

R^2 : 0.998
D-W: 2.372

where:

DQFG is output implicit price deflator, Federal Government
GFPC is index of cumulative Federal Government pay (cost of living) increases (1950 = 100)

The specification of the State and local government implicit price output deflator is different from that of the private industry output deflators since raw material costs and percent change in output are excluded. This is because only personnel costs are included in the NIPA measurement of government output. This specification is shown in equation 5.85.

$$DQLG^n_t = -0.04 + \underset{(1.02)}{0.0217}\ WGLS^n_t + \underset{(5.66)}{0.9326}\ DQLG^n_{t-1} \qquad (5.85)$$

Estimation Period: 1956 to 1977

R^2 : 0.999
D-W: 1.726

where:

DQLG is output deflator, State and local governments
WGLS is wage rates, State and local governments

Chapter 6

MEASURING NRIES PERFORMANCE

After describing the structure of NRIES and identifying the explanatory variables in the equations, it is useful to evaluate the performance of the system as a whole. Performance tests help to evaluate the capabilities of the model, both how it can best be used and its limitations.

As with other multiregion models, it is not possible to produce a single, comprehensive performance test of NRIES, because each variable in NRIES is determined either directly or indirectly by a number of interrelationships among its regional, interregional, and national components over time. The significance of error and elasticity statistics for each variable also can be tested in a variety of ways. The results of each test will vary, and each will depend on the time frame under consideration.

Noting these limitations, this chapter discusses the two approaches used for analyzing NRIES performance. First, the error statistics associated with different model variables are examined. The purpose here is to assess the accuracy of the model. The results for both nondynamic and dynamic historical simulations are analyzed for each State and variable group over three different time periods. Second, a set of multiregional multiplier simulations is presented. This examines the elasticity properties of selected variables in the model. In this section, a hypothetical impact directly affecting only one region (Missouri) is contrasted to the same dollar amount of direct impact occurring over the remainder of the United States (except Missouri).

ANALYSIS OF ERROR STATISTICS

Simulation errors are typically defined as the difference between the actual value of the variable and the value predicted by the model. Errors will vary considerably, however, depending on the periods chosen for study and the type of error analysis undertaken. Listed below are some of the major sources of error generated by any model:

(1) Misspecification: Do the equations actually reflect the phenomena they are trying to measure? For example, a naive specification, using a lagged dependent variable and/or a time trend as the only explanatory variable, may fit well in the estimation but may not account for the majority of factors that affect growth patterns in the future.

(2) Dynamic properties: Do the equations produce stable (as opposed to explosive or deteriorating) forecasts over time? For example, variables with large lag coefficients tend to do well in short simulations but poorly in long ones.

(3) Parameter stability: Are the coefficients expected to remain the same over time? If not, the errors will tend to be skewed during the sample period and get progressively worse during the forecast period.

(4) Simultaneity properties: How well do the equations fit together into a system? For example, do errors in one variable contribute to larger errors in other variables, or do these errors help to offset each other?

(5) Exogenous variable error: Can exogenous variables be accurately predicted? If not, the forecast upon them will also not be accurate.

(6) Judgment error: Can the modeler make effective corrections for phenomena known to exist but not included in the specification? For example, if a gas shortage is expected for certain regions, can the model be manually adjusted to reflect this?

The combination of these factors typically produces a confidence interval around the actual parameter value, as shown in figure 6.1. Errors should be the least within the estimation or sample period, between time t+m and time t+n. This occurs because only error types (1) through (4) are applicable. Errors generally become progressively larger after the sample period since all sources of error (1 through 6) are applicable.

The remainder of this section is concerned with the analysis of NRIES errors. This analysis focuses specifically on the combination of errors associated with misspecification, dynamic properties, and simultaneity properties (1, 2, and 4). These are the most simple and straightforward errors to measure.1/ The test most commonly used to measure these errors in regional models, the mean absolute percent error (MAPE), is applied here for this purpose. The MAPE statistic is simply the average error for any particular endogenous variable in the model during a sample period simulation, and is represented in equation 6.1.

$$\text{MAPE} = \frac{1}{n} \sum_{t=1}^{n} \frac{\left| Y_t - \hat{Y}_t \right|}{Y_t} * 100 \qquad (6.1)$$

where:

n	is number of periods in the sample solution of the model
Y_t	is actual value of the variable Y in time period t
$\hat{Y}_t$	is predicted value of the variable Y in time period t

The MAPE is intended as a general measure of the goodness of fit for model system equations. The statistic can be calculated for any endogenous variable in the model, whether stochastic or an identity. However, as with the estimation itself, results will vary depending upon the time frame that is under consideration. Therefore, to make an overall assessment of model accuracy, MAPE statistics for several time periods are analyzed.

Nondynamic Simulation

A nondynamic simulation is a model solution that uses the actual (rather than predicted) values for all noncurrent (lagged) periods. It is, in effect, a series of one-year, sequential forecasts. The nondynamic simulation MAPE test has two purposes: the first is to measure system stability, the interrelationships among variables in the model; the second is to measure the first period errors, to be used as a comparison with the dynamic simulation MAPE's, which reflect the additional buildup of errors over time.

Table 6.1 shows MAPE statistics for certain key NRIES variables for the 51 States over the period 1963-76. In addition, a State average (unweighted) error and an error for the entire United States are also included. Generally, the error statistics associated with total output, employment, and income range from 0.5 percent to less than 2.0 percent, with the average for these three variables having an unweighted mean of 1.11 percent.2/ Population MAPE statistics generally fall between 0.2 percent and 0.7 percent, with a mean of 0.48 percent. Because of the low

---

1. For parameter stability testing, one might employ an ex post simulation using actual data for years after the estimation period. For exogenous variable error and judgment error testing, an ex ante comparison of historical forecasts might be used. However, in insuring that NRIES was estimated with the most up-to-date information, the data were not available for either of these tests. As data for additional years become available, such tests will be undertaken.

2. Errors for the aggregates of the many industrial sectors will normally be lower than the unweighted errors associated with individual industry estimates. This occurs because, within each time period, an overestimation in one industry may be compensated for by an underestimation in another industry.

Figure 6.1 Variable Confidence Interval Through Time

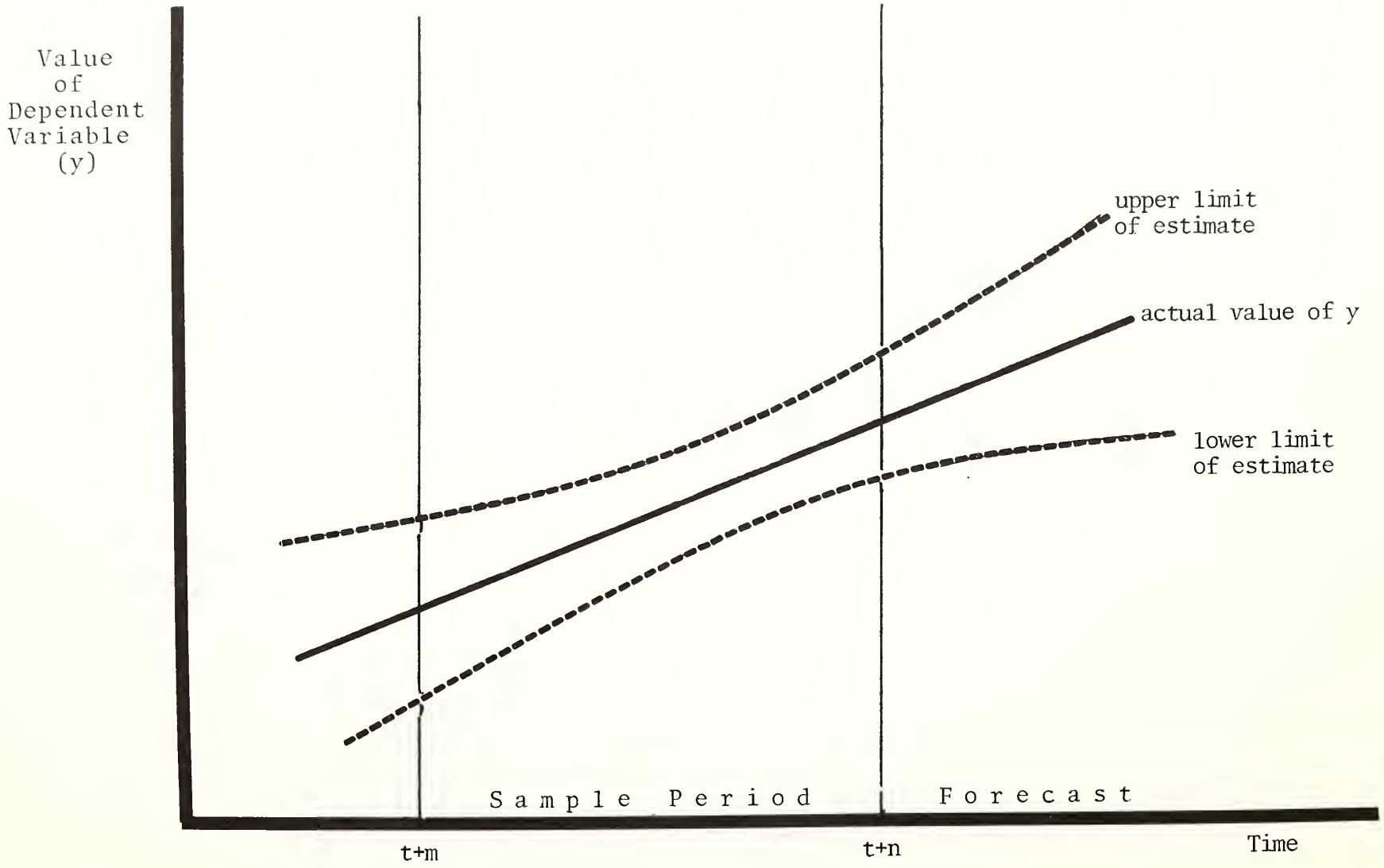


Table 6.1
Nondynamic Simulation for 1963 to 1976, Mean Absolute Percent Error for Major Aggregate Variables

	Output	Employment	Personal Income	Population	Retail Sales
Alabama	1.37	.86	.99	.44	3.10
Alaska	1.71	1.14	2.19	1.46	4.42
Arizona	1.39	1.23	1.85	.51	3.97
Arkansas	1.04	1.07	1.04	.62	1.90
California	.88	.95	.76	.30	2.16
Colorado	.96	1.07	1.17	.87	4.18
Connecticut	1.35	1.18	1.03	.36	2.20
Delaware	1.71	1.40	1.37	.30	2.99
D.C.	1.15	1.78	1.37	.87	5.28
Florida	1.22	.95	1.22	.54	4.96
Georgia	1.55	1.33	1.81	.32	4.12
Hawaii	.84	.68	.91	.68	2.26
Idaho	1.69	1.00	1.04	.69	3.18
Illinois	1.23	1.34	.98	.36	2.07
Indiana	.94	.87	.89	.22	1.79
Iowa	1.63	.76	1.40	.56	1.60
Kansas	1.56	.97	1.01	.61	2.28
Kentucky	.80	.72	.88	.24	2.19
Louisiana	1.09	.77	.65	.37	2.08
Maine	1.03	.76	.93	.44	2.98
Maryland	1.22	.66	1.02	.48	2.48
Massachusetts	1.31	1.19	.75	.21	2.49
Michigan	1.77	.71	.81	.41	1.86
Minnesota	.86	.96	.88	.40	2.87
Mississippi	1.25	1.11	1.26	.52	2.26
Missouri	.97	.91	.81	.33	2.47
Montana	1.29	.67	1.50	.60	2.48
Nebraska	1.40	.98	1.61	.55	2.56
Nevada	1.12	.95	1.10	.73	6.16
New Hampshire	1.83	1.56	1.22	.33	3.63
New Jersey	.96	.77	.79	.26	2.59
New Mexico	.93	.94	1.11	.81	3.60
New York	1.19	1.02	.95	.19	2.29
North Carolina	1.55	1.10	1.35	.21	2.96
North Dakota	2.81	1.97	3.41	1.07	2.17
Ohio	.79	.98	.89	.17	2.11
Oklahoma	1.16	.71	1.06	.42	2.16
Oregon	.87	.68	.73	.42	1.96
Pennsylvania	.82	.71	.69	.32	2.00
Rhode Island	1.00	.91	.82	.47	2.86
South Carolina	1.43	1.02	.91	.27	2.62
South Dakota	1.18	.92	1.50	.70	1.49
Tennessee	.96	.97	1.01	.34	2.28
Texas	.95	.80	1.14	.17	2.92
Utah	.78	.70	.81	.57	3.64
Vermont	1.48	1.25	1.19	.29	2.13
Virginia	.87	.79	1.01	.30	2.93
Washington	1.51	.67	.80	.51	2.05
West Virginia	.85	.56	1.19	.46	4.15
Wisconsin	1.20	.67	.76	.29	3.21
Wyoming	1.26	1.06	1.56	1.02	4.84
State Average	1.23	.96	1.14	.48	2.84
U.S.	.69	.65	.54	.13	2.02

variability in population trends, the simulation errors in this sector are typically lower than the more volatile economic sectors. The retail sales errors are, for the most part, larger than those in the rest of the model. Retail sales has historically been a more volatile part of the economy, and this is reflected by its higher MAPE statistics.

The range of MAPE statistics, covering over 2,800 endogenous stochastic model variables, is tabulated in table 6.2.3/ These data indicate that for all sectors combined, over 80 percent of the variables exhibit less than 5 percent error. Further, over 90 percent of the variables in the output, employment, personal income, and demographic sectors exhibit less than 5 percent error.

Dynamic Simulation

In the dynamic simulation of a model solution, the values of all endogenous variables are computed by the model. The main difference between dynamic simulations and nondynamic simulations is that for dynamic simulations the variables computed by the model are used to determine the following year's solution results. Thus the MAPE is used for examining both system stability and system dynamics. A dynamic simulation is, on the whole, a more realistic test, since it is similar to the conditions faced when making a forecast. Further, because less actual data are used in the dynamic simulation, one expects the errors to be greater than in the nondynamic simulation. Because the statistics will vary depending on the time period chosen, the results of dynamic simulations over three periods--1963-76, 1963-71, and 1970-76--are presented below.

The results of a dynamic simulation over the period 1963-76 are shown in table 6.3. The results indicate that the output and employment sectors exhibit errors that generally range between 1.0 and 3.0 percent and have an unweighted mean of 1.66 percent.4/ This is approximately 50 percent greater than the nondynamic simulation shown in table 6.1.

As with the nondynamic simulation, population registered the lowest errors among the five aggregate variables. However, the population errors in table 6.3 averaged almost three times higher than those in table 6.1. Because current population is so heavily influenced by previous-period population, most population variables performed better in a nondynamic simulation, where the actual values for lagged data are used. While retail sales again registered the highest MAPE's overall, there was virtually no difference between the nondynamic and dynamic simulation errors. Since retail sales reflect current general economic conditions of each State, they are less likely to be influenced by model errors generated in previous periods. As would be expected, all U.S. aggregates registered higher errors in the dynamic simulation. However, the errors still ranged from only .35 percent to 2.02 percent.

The range of the dynamic simulation MAPE statistics, covering all the model sectors, is shown in table 6.4. These results further indicate a slight loss in accuracy with a dynamic simulation. Specifically, 74 percent of the variables overall exhibit errors of less than 5 percent (as compared with 80 percent in the nondynamic simulation). Similarly, in the output, employment, personal income, and demographic sectors, about 80 percent of the variables register MAPE statistics of less than 5 percent (as compared to 90 percent in the nondynamic simulation).

---

3. Of the 68 stochastic variables estimated for each State, 58 are considered endogenous and are therefore included in both the nondynamic and dynamic MAPE tests. The 10 exogenous variables are: output in agriculture, mining, Federal civilian, and armed forces; employment in armed forces; Federal Government transfers to State and local governments; State transfers to local governments; births; and deaths. In addition, as mentioned earlier, about 100 other State equations are not estimated stochastically and are thus excluded from the MAPE tables.

4. As would be expected, almost all States registered somewhat higher errors for the detailed industry estimates. However, the MAPE's for personal income and output components tended to rise more than the errors in the components of the more stable employment sector.

Table 6.2

Nondynamic Simulation for 1963 to 1976, MAPE Summary by Variable Type

Percent Error Range	Output		Employment		Personal Income		Demographic		Retail Sales		Government Fiscal		Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 to 1	20	5.1	49	8.9	79	12.6	166	65.4	1	.4	1	.2	20	9.9	336	11.9
1 to 2	165	41.9	238	43.4	246	39.4	72	28.3	17	6.8	31	5.7	44	21.8	813	28.9
2 to 3	94	23.9	109	19.9	179	28.6	12	4.7	51	20.4	124	22.9	26	12.9	595	21.1
3 to 4	59	15.0	77	14.1	67	10.7	3	1.2	51	20.4	113	20.9	7	3.5	377	13.4
4 to 5	23	5.8	35	6.4	24	3.8			48	19.2	81	15.0	3	1.5	214	7.6
5 to 6	21	5.3	22	4.0	11	1.8	1	.4	45	18.0	70	12.9	1	.5	171	6.1
6 to 7	6	1.5	12	2.2	9	1.4			20	8.0	42	7.8	6	3.0	95	3.4
7 to 8	2	.5	3	.5	4	.6			10	4.0	21	3.9	5	2.5	45	1.6
8 to 9	1	.3	1	.2	2	.3			3	1.2	12	2.2	8	4.0	29	1.0
9 to 10	2	.5	2	.4	2	.3			3	1.2	12	2.2	8	4.0	29	1.0
10 to 15	1	.3			2	.3			1	.4	28	5.2	46	22.5	78	2.7
15 to 20											8	1.5	23	11.5	31	1.1
20 to 25											1	.2	8	4.0	9	.3
25 to 30													2	1.0	2	.1
over 30															0	.0
TOTAL	394	100.0	548	100.0	625	100.0	254	100.0	250	100.0	541	100.0	202	100.0	2814	100.0

Table 6.3
Dynamic Simulation for 1963 to 1976, Mean Absolute Percent Error for Major Aggregate Variables

	Output	Employment	Personal Income	Population	Retail Sales
Alabama	1.90	1.48	1.42	1.09	3.22
Alaska	2.24	1.93	2.83	1.87	4.78
Arizona	2.27	2.33	2.61	.88	4.38
Arkansas	1.42	1.10	.96	.84	1.93
California	1.13	.86	.87	.77	2.18
Colorado	1.37	1.75	1.52	1.71	3.96
Connecticut	4.11	2.70	2.97	1.01	2.05
Delaware	2.61	2.65	1.88	1.16	3.37
D.C.	1.79	3.55	3.13	2.00	5.36
Florida	1.65	1.68	2.45	1.22	5.40
Georgia	1.59	1.50	1.88	.69	4.43
Hawaii	1.27	1.13	1.10	.85	2.59
Idaho	2.25	1.30	2.22	1.72	3.28
Illinois	1.77	2.08	1.83	1.24	2.12
Indiana	1.96	.99	1.33	.28	1.78
Iowa	1.15	1.65	1.74	.93	1.60
Kansas	1.75	1.75	2.02	1.18	2.17
Kentucky	.84	.86	.98	.40	2.59
Louisiana	1.33	1.21	1.32	.48	1.88
Maine	1.27	1.66	1.65	.78	3.37
Maryland	1.12	.95	.97	1.51	2.47
Massachusetts	2.11	1.57	1.83	.47	2.51
Michigan	3.77	2.57	2.56	2.49	2.30
Minnesota	1.22	.97	1.20	.76	2.82
Mississippi	1.24	1.20	1.42	1.05	2.49
Missouri	1.88	1.76	1.96	.91	2.59
Montana	2.20	.93	1.83	1.20	2.46
Nebraska	1.54	1.52	1.53	.90	3.01
Nevada	1.26	1.36	1.59	1.66	5.05
New Hampshire	2.10	1.62	1.40	.81	4.06
New Jersey	1.15	.98	1.25	.63	3.09
New Mexico	1.34	1.92	2.27	1.85	4.34
New York	2.68	1.95	2.33	.48	2.41
North Carolina	1.60	2.26	2.72	.41	2.27
North Dakota	2.93	2.18	3.25	1.43	2.37
Ohio	2.00	1.36	1.48	.92	1.67
Oklahoma	1.06	.78	1.13	.92	1.51
Oregon	1.03	1.01	1.19	.80	2.26
Pennsylvania	1.97	1.35	1.46	1.04	1.75
Rhode Island	1.51	1.26	1.66	.91	3.24
South Carolina	1.57	1.09	1.25	.59	3.55
South Dakota	1.42	1.30	2.07	1.12	1.55
Tennessee	1.12	1.43	1.80	.39	2.77
Texas	.73	.80	1.04	.27	2.95
Utah	2.06	1.92	2.26	1.54	4.22
Vermont	2.38	1.63	1.53	.56	2.09
Virginia	.90	.77	1.00	.49	3.11
Washington	1.71	1.10	1.41	1.19	2.26
West Virginia	1.37	1.80	2.48	1.78	5.59
Wisconsin	1.45	1.00	1.05	1.12	3.15
Wyoming	1.58	1.37	2.14	1.42	4.07
State Average	1.73	1.52	1.76	1.02	2.99
U.S.	1.03	.85	.84	.35	2.02

Table 6.4

Dynamic Simulation for 1963 to 1976, MAPE Summary by Variable Type

Percent Error Range	Output		Employment		Personal Income		Demographic		Retail Sales		Government Fiscal		Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 to 1	6	1.5	22	4.0	47	7.5	43	16.9					10	5.0	128	4.5
1 to 2	116	29.4	142	25.9	206	33.0	114	44.9	15	6.0	16	3.0	34	16.8	643	22.9
2 to 3	92	23.4	119	21.7	149	23.8	55	21.7	42	16.8	73	13.5	19	9.4	549	19.5
3 to 4	63	16.0	78	14.2	106	17.0	24	8.4	55	22.0	115	21.3	13	6.4	454	16.1
4 to 5	45	11.4	65	11.9	44	7.0	11	4.3	42	16.8	81	15.0	14	6.9	302	10.7
5 to 6	27	6.9	41	7.5	28	4.5	3	1.2	46	18.4	55	10.2	6	3.0	206	7.3
6 to 7	13	3.3	34	6.2	10	1.6	3	1.2	22	8.8	41	7.6			123	4.4
7 to 8	11	2.8	22	4.0	15	2.4			11	4.4	30	5.5	7	3.5	96	3.4
8 to 9	9	2.3	7	1.3	5	.8	1	.4	10	4.0	33	6.1	2	1.0	67	2.4
9 to 10	8	2.0	5	.9	3	.5			2	.8	32	5.9	5	2.5	55	2.0
10 to 15	3	.8	11	1.9	10	1.6			5	2.0	53	9.8	43	20.9	125	4.4
15 to 20	1	.3	2	.4	1	.2					8	1.6	31	15.4	43	1.6
20 to 25											3	.6	12	6.0	16	.6
25 to 30											1	.2	3	1.5	4	.1
over 30													3	1.5	3	.1
TOTAL	394	100.0	548	100.0	625	100.0	254	100.0	250	100.0	541	100.0	202	100.0	2814	100.0

As a further test, the 1963-76 sample period was split, and separate dynamic simulations were run for two subperiods. Tables 6.5 and 6.6 list MAPE statistics for a 1963-71 dynamic simulation of NRIES, a period with few and minor business cycle swings. The relative stability of this period can be compared with tables 6.7 and 6.8, which list MAPE statistics from a second dynamic simulation, from 1970 to 1976, a period with more volatile economic conditions. The comparison suggests an interesting, although not unexpected, contrast. At one extreme, demographic errors were the lowest among the sectors listed, and were also only slightly larger in magnitude in the later period. This implies that population growth is somewhat impervious to economic volatility. The results for output show much more significant differences for the two periods. Here, the results indicate greater errors during the more volatile, later period. More specifically, in the 1963-71 period, seven States registered output errors under 1.0 percent and only three over 3.0 percent; in the 1970-76 period, four States registered output errors under 1.0 percent and five over 3.0 percent. As we have already indicated, these results are not unexpected, and merely reflect the difficulty in simulating economic activity during volatile periods such as the early 1970's. However, because of structural and technological change over the estimation period, the errors generated by the latest solution (1970-76) will more closely indicate expected performance of NRIES forecasts.

One final aspect of the analysis of the accuracy of NRIES involves a comparison of the errors it produces relative to the numerous and usually more detailed individual State models that are currently in existence. Table 6.9 presents the MAPE statistics for a selected group of single-region State econometric models and the comparable statistics for NRIES variables. It must be noted again that the level of error will vary depending on the time frame under consideration, usually with less volatile growth periods showing lower MAPE values. In addition, although this is not easily quantifiable, the exogenous national component of the single-region models should generally result in lower MAPE's than with the mostly endogenous national component of NRIES.

Still, while not strictly comparable because of differences in estimating methodologies and periods under study, these results suggest that the errors associated with NRIES variables are roughly comparable to those obtained from single-region models. When comparisons are made where possible, NRIES' MAPE statistics are found to be lower than those of the State models in a slight majority of cases. These results are especially encouraging, given the relatively aggregate level of the NRIES State models as compared with the single-region models considered.

ANALYSIS OF MULTIPLIERS

Multiplier analysis is typically used to assess model system elasticities over space and time, in contrast to error analysis, which focuses on the accuracy of a model. Multiplier analysis can be described as a general approach for analyzing model interrelationships and responsiveness to impacts, rather than a unique analytical methodology.5/ As with error statistics, different types of multipliers can be calculated, depending on the particular features of the model that are of interest. For example, an extended shock to the economy can be expected to produce different results from those produced by a one-period shock. The results of the multipliers will also vary, depending on the time frame under consideration. For instance, the effects of a fiscal stimulus on unemployment are expected to be less during high growth periods (e.g., 1964-65) than in low growth periods (e.g., 1974-75).

In multiregional models, another parameter can vary substantially: the area of impact. Because different regions have different economic characteristics (for example, employee productivity and marginal propensities to consume locally), it is likely that a similar stimulus will produce different impacts, depending on the initial location of the stimulus. Within multiregional models there are three types of area configurations that can have an effect on the size of the multipliers: regional, interregional, and national.

---

5. Because NRIES, as well as most other econometric models, has nonlinear estimation properties, a reduced-form-model specification is not possible. Any system solution is thus not unique, and if calculated correctly, is only a global optimum. For further discussion of model system properties see Klein (1974) and Faddeeva (1959).

Table 6.5
Dynamic Simulation for 1963 to 1971, Mean Absolute Percent Error for Major Aggregate Variables

	Output	Employment	Personal Income	Population	Retail Sales
Alabama	2.45	1.40	1.37	1.08	4.49
Alaska	2.46	1.72	3.57	1.06	3.66
Arizona	1.73	2.28	2.10	.43	4.25
Arkansas	1.39	1.13	1.29	1.10	2.02
California	1.03	.84	.82	.63	2.78
Colorado	1.48	1.82	1.59	1.77	4.99
Connecticut	3.74	2.28	2.09	.69	2.87
Delaware	3.58	3.43	1.90	1.14	4.45
D.C.	1.24	3.16	2.21	1.90	4.14
Florida	.83	.90	1.41	1.10	6.52
Georgia	.83	.70	.93	.78	4.69
Hawaii	1.54	1.25	1.49	.59	2.76
Idaho	1.96	1.42	2.90	2.36	3.91
Illinois	2.52	2.82	2.89	1.46	2.87
Indiana	1.70	.96	1.21	.17	2.44
Iowa	1.67	.95	1.55	.92	1.57
Kansas	1.18	1.20	1.54	1.23	3.29
Kentucky	.97	.98	1.11	.43	3.01
Louisiana	1.15	1.35	1.79	.53	1.82
Maine	1.29	1.33	1.75	.74	3.35
Maryland	1.31	1.21	1.16	2.07	2.18
Massachusetts	2.06	1.66	1.54	.53	2.30
Michigan	4.27	3.22	3.65	2.62	2.91
Minnesota	1.36	1.18	1.21	.81	3.58
Mississippi	1.61	1.32	1.94	1.39	3.81
Missouri	2.07	2.07	2.34	1.06	3.47
Montana	1.89	1.11	1.71	1.74	2.57
Nebraska	1.10	1.62	.91	1.07	2.67
Nevada	1.32	1.22	1.21	2.05	6.75
New Hampshire	2.70	1.75	1.88	1.03	4.80
New Jersey	.65	.69	.71	.70	3.24
New Mexico	1.34	2.49	2.56	2.62	5.93
New York	2.69	2.10	2.43	.46	1.90
North Carolina	.97	1.93	2.69	.34	1.61
North Dakota	2.00	1.47	2.87	1.16	1.87
Ohio	2.35	1.97	2.17	.97	2.13
Oklahoma	1.27	.96	1.36	.90	1.46
Oregon	1.12	1.07	1.41	.87	2.71
Pennsylvania	2.25	1.37	1.39	1.22	2.71
Rhode Island	1.16	.89	1.38	.85	4.81
South Carolina	1.54	.85	.54	.46	4.32
South Dakota	.87	1.31	1.55	1.20	1.54
Tennessee	.75	.85	1.42	.40	3.26
Texas	.84	.92	1.23	.31	3.00
Utah	2.73	2.62	3.13	1.89	6.67
Vermont	2.23	1.37	1.38	.35	1.51
Virginia	.91	.68	.72	.49	4.52
Washington	1.85	1.40	2.35	1.44	2.88
West Virginia	1.39	.81	1.92	1.01	7.31
Wisconsin	1.81	1.23	1.39	.92	3.66
Wyoming	1.33	1.34	1.37	1.41	6.51
State Average	1.70	1.50	1.75	1.07	3.51
U.S.	1.18	.97	1.01	.39	2.55

Table 6.6

Dynamic Simulation for 1963 to 1971, MAPE Summary by Variable Type

Percent Error Range	Output		Employment		Personal Income		Demographic		Retail Sales		Government Fiscal		Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 to 1	11	2.8	45	8.2	55	8.8	47	18.5	2	.8			11	5.4	171	6.1
1 to 2	102	25.9	125	22.4	186	29.8	93	36.6	18	7.2	22	4.1	25	12.4	571	20.3
2 to 3	107	27.2	111	20.3	134	21.4	62	24.4	30	12.0	71	13.1	22	10.9	537	19.1
3 to 4	64	16.2	78	14.2	82	13.1	28	11.0	45	18.0	71	13.1	16	7.9	384	13.6
4 to 5	38	9.6	73	13.3	66	10.6	12	4.7	44	17.6	76	14.0	9	4.5	318	11.3
5 to 6	22	5.6	26	4.7	33	5.3	5	2.0	32	12.8	71	13.1	10	5.0	199	7.1
6 to 7	20	5.1	37	6.8	23	3.7	3	1.2	24	9.6	43	7.9	7	3.5	157	5.6
7 to 8	14	3.6	20	3.6	12	1.9	3	1.2	21	8.4	33	6.1	5	2.5	108	3.8
8 to 9	7	1.8	16	2.9	9	1.4			12	4.8	25	4.6	5	2.5	74	2.6
9 to 10	6	1.5	4	.7	10	1.6	1	.4	5	2.0	21	3.9	8	4.0	55	2.0
10 to 15	2	.5	11	2.0	12	1.9			16	6.4	60	11.2	33	16.5	134	4.8
15 to 20	1	.3	2	.4	1	.2			1	.4	32	5.6	25	12.4	60	2.1
20 to 25					1	.2					13	2.5	18	9.0	32	1.2
25 to 30					1	.2					3	.6	7	3.5	11	.4
over 30											2	.4	1	.5	3	.1
TOTAL	394	100.0	548	100.0	625	100.0	254	100.0	250	100.0	541	100.0	202	100.0	2814	100.0

Table 6.7
Dynamic Simulation for 1970 to 1976, Mean Absolute Percent Error for Major Aggregate Variables

	Output	Employment	Personal Income	Population	Retail Sales
Alabama	1.16	1.37	1.07	.49	2.88
Alaska	2.09	1.85	2.64	2.80	4.91
Arizona	2.42	1.69	2.58	.79	4.75
Arkansas	1.27	1.07	.94	.47	1.63
California	1.86	1.66	1.20	.84	2.04
Colorado	1.44	1.51	1.41	2.24	5.16
Connecticut	3.46	2.79	2.82	.73	2.11
Delaware	2.73	1.58	.79	.42	3.21
D.C.	1.85	5.02	3.39	1.85	5.70
Florida	2.23	1.96	2.61	1.33	5.30
Georgia	1.99	1.97	2.30	.31	4.94
Hawaii	.94	.78	.70	.77	2.50
Idaho	2.28	1.02	1.22	.72	3.42
Illinois	2.23	2.49	2.59	.91	2.28
Indiana	2.20	1.44	1.34	.54	1.52
Iowa	1.50	.68	1.23	.93	1.77
Kansas	2.61	4.09	3.13	1.21	2.14
Kentucky	.89	1.12	1.01	.39	2.18
Louisiana	1.82	1.04	.73	.39	1.60
Maine	1.62	2.34	1.82	.85	3.51
Maryland	1.52	1.29	1.37	.70	3.35
Massachusetts	2.53	1.88	1.89	.47	3.38
Michigan	5.22	3.45	4.56	1.40	3.08
Minnesota	1.43	1.10	1.32	.71	2.55
Mississippi	1.18	1.53	1.42	.65	2.17
Missouri	1.58	1.92	1.88	.76	2.34
Montana	1.78	1.03	1.74	1.31	2.83
Nebraska	1.59	.76	.94	.99	2.89
Nevada	1.29	1.12	1.72	2.21	4.93
New Hampshire	2.85	2.62	2.00	.65	4.39
New Jersey	1.46	1.25	1.39	.49	3.52
New Mexico	1.55	1.94	2.29	1.91	6.18
New York	3.33	2.24	2.04	.89	3.11
North Carolina	1.77	1.74	1.81	.54	3.08
North Dakota	3.64	2.94	3.17	1.87	2.86
Ohio	1.16	1.48	1.44	.59	2.05
Oklahoma	1.36	.44	1.37	.40	1.73
Oregon	1.29	1.04	1.21	.81	2.08
Pennsylvania	3.56	3.07	2.93	1.33	2.86
Rhode Island	1.86	1.57	1.35	.96	2.82
South Carolina	1.28	1.14	.96	.39	2.76
South Dakota	2.26	1.92	2.73	1.65	1.75
Tennessee	1.73	1.64	1.71	.39	2.93
Texas	.60	.59	.80	.10	3.31
Utah	1.22	.86	1.67	.56	4.11
Vermont	2.55	2.27	2.00	.70	2.66
Virginia	1.10	1.20	1.38	.67	3.36
Washington	1.80	.69	.84	.54	1.82
West Virginia	.84	1.55	.86	1.06	3.84
Wisconsin	1.92	1.31	1.64	.46	3.41
Wyoming	2.33	1.83	2.95	1.01	3.46
State Average	1.92	1.70	1.76	.90	3.07
U.S.	1.68	1.29	1.14	.41	2.39

Table 6.8

Dynamic Simulation for 1970 to 1976, MAPE Summary by Variable Type

Percent Error Range	Output		Employment		Personal Income		Demographic		Retail Sales		Government Fiscal		Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 to 1	10	2.5	36	6.6	79	12.6	83	32.7			1	.2	18	8.9	227	8.1
1 to 2	113	28.7	148	27.0	210	33.6	106	41.7	13	5.2	32	5.9	40	19.8	662	23.5
2 to 3	114	28.9	121	22.1	161	25.8	38	15.0	47	18.8	100	18.5	23	11.4	604	21.5
3 to 4	51	12.9	74	13.5	96	15.4	16	6.3	44	17.6	114	21.1	10	5.0	405	14.4
4 to 5	37	9.4	54	9.9	33	5.3	4	1.6	53	21.2	73	13.5	6	3.0	260	9.2
5 to 6	19	4.8	38	6.9	17	2.7	2	.8	35	14.0	54	10.0	3	1.5	168	6.0
6 to 7	12	3.0	29	5.3	9	1.4	3	1.2	25	10.0	45	8.3	2	1.0	125	4.4
7 to 8	5	1.3	11	2.0	7	1.1	2	.8	13	5.2	25	4.6	7	3.5	70	2.5
8 to 9	9	2.3	11	2.0	2	.3			9	3.6	38	7.0	5	2.5	74	2.6
9 to 10	9	2.3	9	1.6					8	3.2	13	2.4	10	5.0	49	1.8
10 to 15	14	3.6	16	2.8	9	1.4			3	1.2	33	6.1	43	21.3	118	4.2
15 to 20	1	.3	1	.2	2	.4					8	1.5	14	7.0	26	.9
20 to 25											3	.6	12	6.0	15	.5
25 to 30											2	.4	6	3.0	8	.3
over 30													3	1.5	3	.1
TOTAL	394	100.0	548	100.0	625	100.0	254	100.0	250	100.0	541	100.0	202	100.0	2814	100.0

Table 6.9

Comparison of MAPE Statistics for Selected Single Region (SR) State Econometric Models and NRIES

	Single-Regional (SR) Model			Variable Type and MAPE Statistic							
				Output		Employment		Income		Population	
State	Reference	Period	Frequency	SR Model	NRIES	SR Model	NRIES	SR Model	NRIES	SR Model	NRIES
Delaware	Latham, et. al 1979	1964-74	Quarterly		2.6	2.4	2.7	2.9	1.9	0.6	1.2
Florida	Fishkind 1979	1973-79	Quarterly		1.7	1.0	1.7	1.0	2.5	0.6	1.2
Georgia	Grimes 1973	1970-75	Annual	2.0	1.6	5.3	1.5	1.6	1.9	0.2	0.7
Hawaii	Licari, et. al 1973	1966-68	Annual		1.3	1.5	1.1	1.9	1.1		0.9
Indiana	Fishkind 1979	1960-73	Annual	2.5	2.0	1.8	1.0	1.8	1.3	1.2	0.3
Kentucky	Renfro 1978	1964-72	Quarterly		0.8	1.8	0.9	1.2	1.0		0.4
Mississippi	Adams, et. al 1975	1955-70	Annual	1.3	1.2	0.4	1.2	0.7	1.4		1.1
New York	Saltzman and Chi 1977	1970-72	Monthly	1.7	2.7	1.5	2.0	1.4	2.3		0.5
Ohio	L'Esperance 1980	1951-72	Annual	1.7	2.0	1.4	1.4	1.8	1.5		0.9
Oklahoma	Liew and Kahng 1972	1951-68	Annual		1.1	1.5	0.8	2.0	1.1		0.9
Pennsylvania	Klein and Glickman 1974	1956-71	Annual	1.4	2.0	1.4	1.4	1.6	1.5	0.8	1.0
Tennessee	Gustely 1978	1968-74	Annual	2.0	1.1	1.0	1.4	0.7	1.8		0.4

For all NRIES MAPE statistics the period is 1963-76 and the frequency is annual.

Regional impacts originate from the initial direct stimulus within an area. Here, for example. multipliers will vary most, depending on a region's size: larger regions tend to supply more of their indirect needs than smaller regions, and so larger regions usually will have higher multipliers. As generally recognized, the regional-size factor is really a composite of other features. such as the regional industrial self-sufficiency and the various properties of household demand. including the marginal propensity to consume imported goods.6/

Interregional impacts originate from the trading relationship between the region with the initial stimulus and the other regions in the country. Here, multipliers will differ due to the mutual dependencies of each region on the others. For example, interregional multipliers will vary most depending on the level of industrial integration or trade within the national economy.

National impacts originate from two sources. The first, those derived from simply summing regional impacts, are more prevalent for those industries that are most directly affected by the level of aggregate local demand (e.g., services). For example, a stimulus to the services industry will tend to be greater in the region where the initial shock occurred. The second are the national impacts that result directly from changes in nationally determined variables. For example, a stimulus to the Federal Government can produce offsetting fiscal and/or monetary policies that may diminish the overall level of the impact.

The remainder of this chapter will describe results from the use of NRIES in two multiplier applications. In the demonstration, NRIES is used to generate two simulations that are designed to focus on regional, interregional, and national effects. In the first simulation, durable goods output in Missouri for the single year 1978 is increased by $100 million. In the second simulation, durable goods output in the States except Missouri is increased by $100 million for the single year 1978. The results of the two simulations are then compared with a NRIES baseline solution over the period 1978-83, and estimates of the impact of the initial stimulus are presented.

The simulation results of the effects (direct, indirect, and induced) caused by a $100 million stimulus to durable goods output in Missouri are summarized in table 6.10. As expected, the simulation indicates that the majority (over 85 percent) of first-year impacts are registered in Missouri. However, in each of the remaining 5 years, a greater impact is generated in the remainder of the Nation, with the Missouri share averaging less than 40 percent. The spatial diffusion of impacts associated with the initial stimulus to Missouri should also be noted. Specifically, the results indicate that the Plains region (which includes Missouri) has the greatest impact overall, followed by the adjacent Great Lakes, Southeast, and Southwest regions. The remaining regions--New England, Mideast, Rocky Mountain, and Far West--register negligible impacts.

Worthy of specific note are the "negative" impacts, associated with this simulation, that are registered by the New England, Mideast, Rocky Mountain, and Far West regions. These occur because the stimulus to economic activity in the Plains region produces population migration away from these regions, thereby diminishing their level of economic activity.

In order to better understand the spatial diffusion of the initial stimulus, percent changes in output over the impact period were calculated for each State and plotted against distance from Missouri (see figure 6.2). 7/ Generally, these results reflect the overall importance of distance in influencing the spatial distribution of impacts. Nearby States, such as Arkansas, Illinois, Iowa, and Kansas, register the largest impacts, while distant States, such as Washington, California, Maine, and Massachusetts, register relatively small changes.8/

---

6. See U.S. Department of Commerce (1977) for a description of this phenomenon.

7. Overall, the output impacts range from +0.006 for Arkansas to -0.002 for New Hampshire.

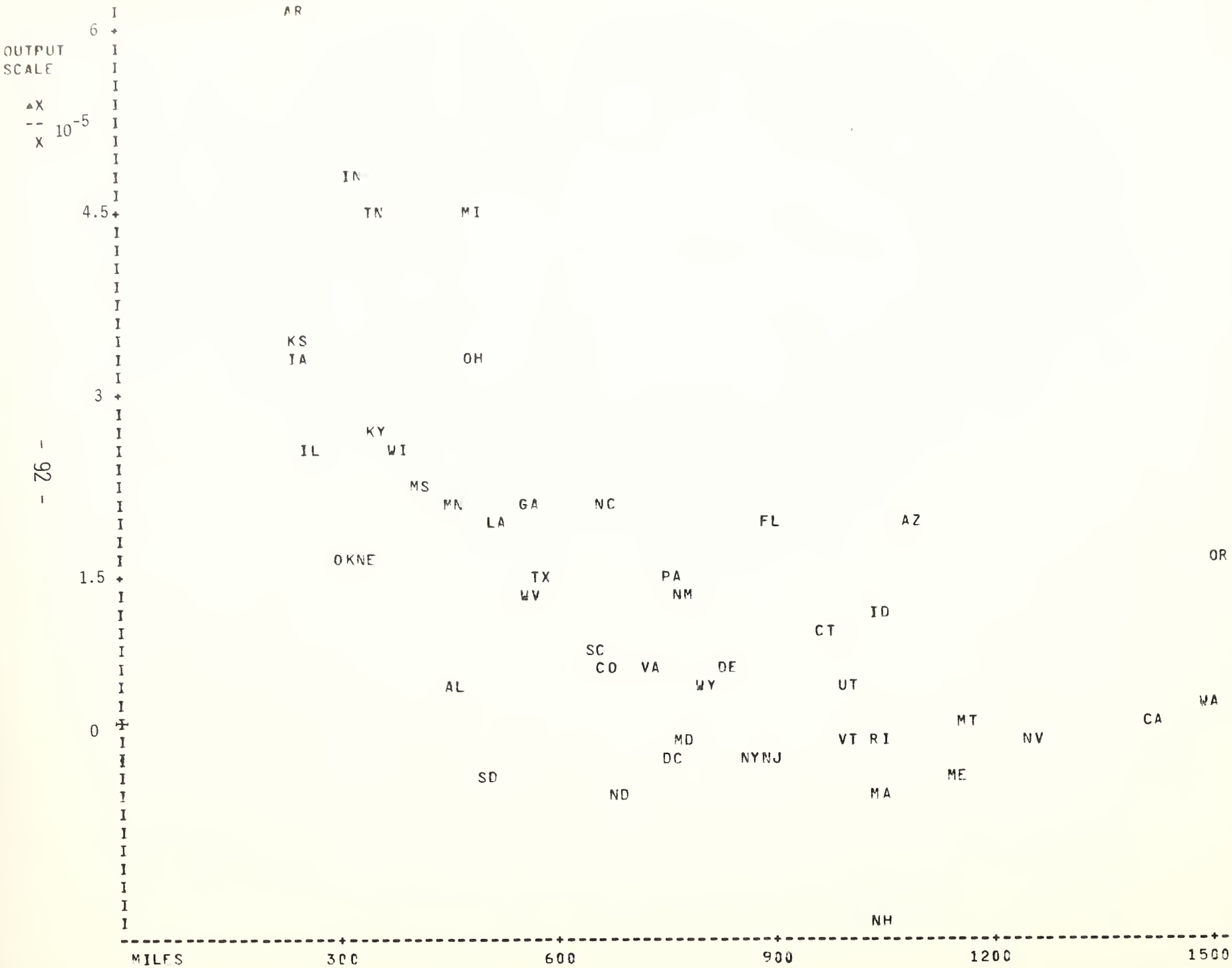
8. It should be noted that it is often useful to modify the simple gravity concept employed here. For example, in analyzing the effect of increased defense purchases of Missouri durables (aircraft), it might be helpful in future analysis if the increased purchases of Connecticut and California durables (jet engines) were considered.

Table 6.10

Gross Output Impacts Caused by a $100 Million Increase in Economic Activity for Missouri

	1978	1979	1980	1981	1982	1983	Total
			(millions of 1972 dollars)				
United States	150.3	59.8	27.4	28.9	26.0	20.8	313.2
Missouri	130.9	20.3	11.7	10.2	8.3	8.0	189.5
Remainder of U.S.	19.4	39.5	15.8	18.7	17.6	12.8	123.7
BEA Regions							
New England	.2	.5	-.5	-.4	-.5	-.7	-1.3
Mideast	1.5	3.4	1.0	-1.3	-.3	-3.1	1.3
Great Lakes	2.0	15.8	8.2	12.3	12.6	12.0	63.0
Plains	135.0	23.2	12.9	11.5	9.2	8.8	200.6
Southeast	8.3	9.5	4.7	4.9	4.3	4.0	35.8
Southwest	2.2	3.0	1.3	1.8	1.5	1.5	11.3
Rocky Mountain	.4	.6	.1	.1	.0	-.1	1.2
Far West	.7	3.8	-.4	-.0	-1.0	-1.7	1.4

FIGURE 6.2: REGIONAL IMPACTS FROM AN OUTPUT CHANGE IN MISSOURI; RELATIONSHIP BETWEEN STATE OUTPUT IMPACTS AND DISTANCE



Distance, however, is not the only factor in determining the spatial diffusion of economic effects. There are several examples of the influence of other important factors. For instance, while Arkansas and Iowa are located at approximately the same distance from Missouri, the greater changes are felt in Arkansas. Similarly, while Ohio and Iowa register similar impacts, Ohio is much farther from Missouri than is Iowa. One explanation of these results is that the manufacturing bases of both Arkansas and Ohio are large enough to be stimulated by increased economic activity in Missouri, while the manufacturing base of Iowa is relatively small. Iowa's substantial impact probably results solely from the reliance of Missouri on Iowa's agricultural sector.

Similar results can be seen for the more distant States. For example, while New Hampshire and Rhode Island are situated at similar distances from Missouri, the effect on Rhode Island is greater than that on New Hampshire. Also, while the impacts in California and Rhode Island are comparable, California is substantially farther from Missouri than is Rhode Island. These results suggest that the structure and size of the economic base of these States, together with the distance from the point of initial stimulus, determine the overall spatial diffusion of the impact.

The results of the simulation of the effects of a $100 million stimulus to durable goods output in the rest of the Nation are presented in table 6.11.9/ Several observations regarding those results should be noted here. First, the overall impacts on Gross Domestic Product generated in this simulation for the United States are substantially greater (17 percent) than those of the previous simulation, because multipliers in some of the regions receiving the stimulus (particularly those with a high concentration of durables output) tend to be greater than those for Missouri. This possibly reflects regional differences in labor productivity resulting from historical differences in capital investment regionally. However, it is also possible that part of this stimulus results from the fact that the durable goods mix in Missouri is substantially different from that of the rest of the United States, and not solely from regional differences in labor productivity for a specific durable goods category. Second, the regional distribution of impacts is also different in this simulation than in the previous one; the impact in the Great Lakes and Southeast regions is more than twice as great as before. This occurs because in the second simulation, an initial stimulus was made to each of the regions, while only an initial stimulus in Missouri was assumed previously (causing only indirect and induced impacts on other regions).

In order to better understand these findings, the spatial variation in multipliers generated from this simulation is shown in figure 6.3. The figure suggests some significant regional patterns in the multipliers. Specifically, these results indicate that in those regions with the largest concentration of durable goods industries (Mideast, Great Lakes, Southeast, and Southwest), the multipliers are generally larger than those in the remaining regions (New England, Plains, Rocky Mountain, and Far West).

Much of this regional regularity can be traced to the fact that the direct impacts from one State tend to spill over to produce indirect and induced effects in adjacent States. If adjacent States also experience a direct stimulus, then the indirect and induced changes for the reference State are magnified. For example, the multiplier for Ohio is magnified by substantial spillovers from the initial stimuli in Pennsylvania, Indiana, and Michigan. On the other hand, even though the initial stimulus to California is large, the overall multiplier for California is small since the impacts in neighboring States, such as Nevada and Oregon, are small.

The results in table 6.11 also indicate the magnitude of the indirect and induced effects on the Missouri economy that result from increases in economic activity in the remainder of the Nation. Specifically, the magnitude of total impacts in Missouri ($2.6 million) is comparable to the average indirect and induced effect ($2.5 million) for the States other than Missouri in the

---

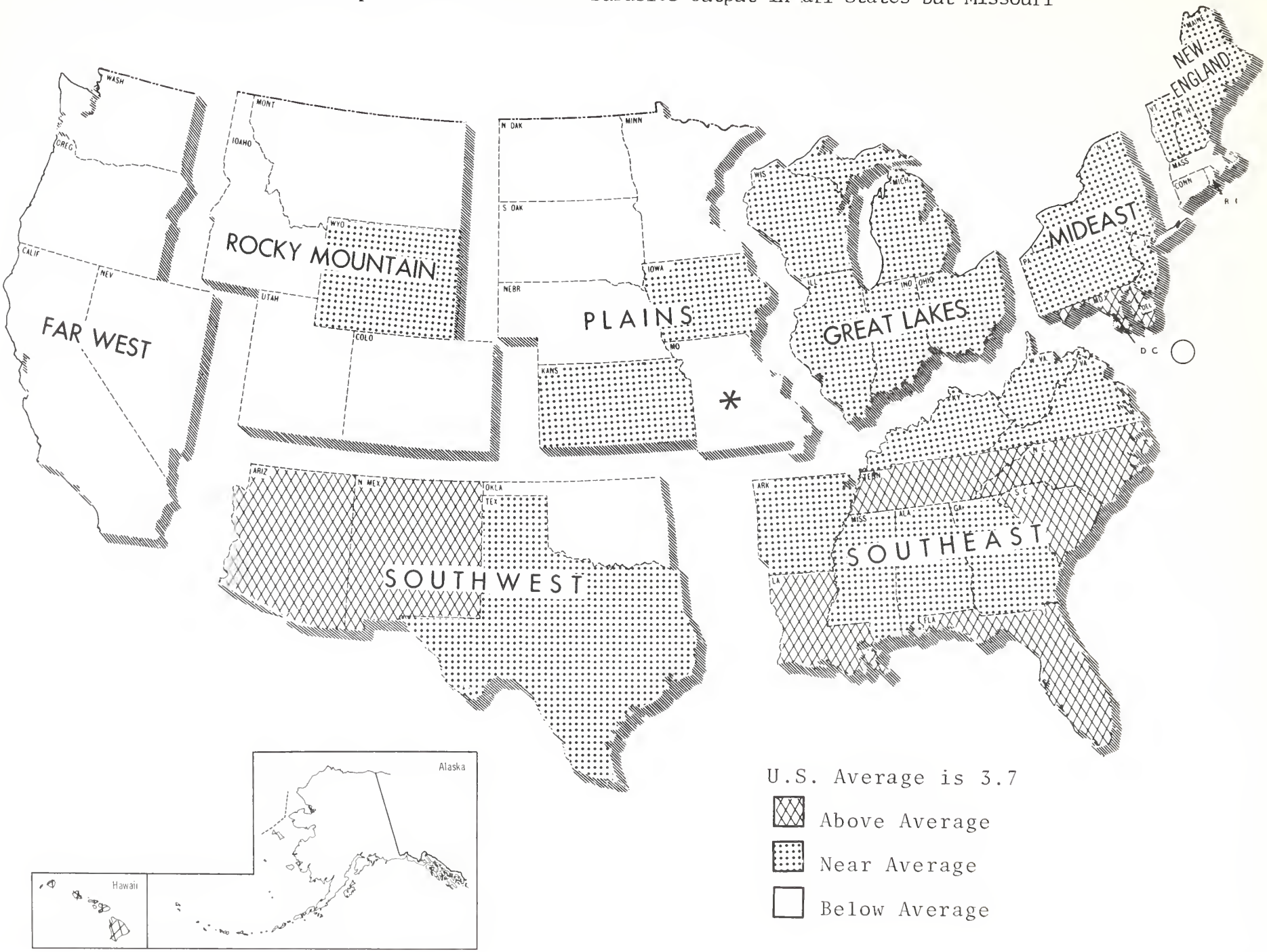
9. The $100 million was distributed among the States, based on each State's relative share of total manufacturing durables output.

Table 6.11

Gross Output Impacts Caused by a $100 Million
Increase in Economic Activity in all States Except Missouri

	1978	1979	1980	1981	1982	1983	Total
			(millions of 1972 dollars)				
United States	167.8	79.6	36.7	31.8	27.6	21.9	365.5
Missouri	.6	.8	.2	.3	.3	.2	2.6
Remainder of U.S.	167.1	78.8	36.5	31.5	27.3	21.7	362.9
BEA Regions							
New England	9.0	2.4	.7	1.0	.4	.4	13.9
Mideast	33.1	14.1	8.5	6.1	6.4	3.6	71.7
Great Lakes	64.1	38.0	17.6	15.6	14.2	13.2	162.7
Plains	8.4	3.3	1.2	1.1	.7	.5	15.3
Southeast	25.6	14.1	7.3	6.3	5.5	4.8	63.5
Southwest	9.1	3.6	1.7	1.9	1.3	1.1	18.7
Rocky Mountain	2.5	.6	.1	.0	-.1	-.1	3.0
Far West	16.0	3.6	-.3	-.2	-.8	-1.7	16.6

Figure 6.3: Gross Output Multipliers: Increase in Durables Output in all States but Missouri



previous simulation. This finding possibly reflects the fact that, historically, the Missouri economy has roughly patterned the national average in terms of industrial structure and overall employee productivity.

All sectors of the Missouri economy, however, do not share equally in the stimulus to the remainder of the Nation. Table 6.12 provides an industrial breakdown of the total impacts on Missouri output over the 1978-83 period. As expected, the results indicate that the sectors that rely most heavily on economic activity in other States--trade, durables manufacturing, and nondurables manufacturing--benefit most from the external stimulus. Other sectors that are dependent on internal changes in the Missouri economy (e.g., services and construction) experience negative impacts relative to the control, as a result of the stimulus to the remainder of the United States. This comes from the outmigration of Missouri population in response to increased employment opportunities that are generated by the direct stimuli in other States.

Table 6.12

Total Impacts on Missouri Output Caused by a $100 Million Increase in Economic Activity in Rest of the U.S.*

	Absolute Impact 1978-1983 (Millions of Dollars)	Relative Impact 1978-1983 (Ratio of Industry to Total Impact Times 100)
Construction	-0.49	-18.8
Nondurables Manufacturing	0.80	30.8
Durables Manufacturing	1.30	50.0
Transportation-Communication-Public Utilities	-0.19	-7.3
Trade	1.36	52.3
Finance-Insurance-Real Estate	0.20	7.7
Services	-0.33	-12.6
Other	-0.05	-1.9
TOTAL	2.60	100.0

*Relative to control solution. A minus sign denotes that the sector showed a relative (although not necessarily absolute) decline.

Chapter 7

THE APPLICATION OF NRIES

A basic use of the NRIES model is to provide estimates of regional economic impacts of alternative policy scenarios. These estimates can be used as inputs into the policymaking process. With NRIES there are two steps necessary to obtain estimates of the regional economic and demographic changes that result from government policy decisions. The first involves the generation of a control solution. Here, the model is employed to generate estimates of regional economic and demographic variables, assuming there are no drastic changes in the structure of the State or national economies. In the second step, an alternate or impact solution is obtained, where specific variables have been changed to reflect policy or program changes. Here, the model is again employed to generate estimates of regional economic activity, but in this case the model simulates the level of economic activity that includes the effects of the policy shock. The NRIES control solution and impact solution are then compared, the difference representing an estimate of impacts associated with the policy change.

This chapter will examine various uses of NRIES as an impact tool. This will include not only a discussion of the methodology employed for deriving impacts, but also an analysis of the impacts. Two subnational applications will be examined. The first, a single-region application, is an advanced coal development scenario covering the 1978-85 period for the State of Montana. The second application describes a similar scenario tailored as a multiregion application. The multiregion application focuses on the impact occurring when 15 major coal-producing States are assumed to accelerate coal output over the 1978-85 period. The third and final demonstration of the use of NRIES, a national application, concentrates on the estimation of historical regional impacts of existing Federal grants-in-aid programs to State and local governments. In the national application, the impacts of actual grant-in-aid payments over the 1969-77 period are estimated for each region by comparing historical regional growth trends (as simulated by the model) with those obtained when grants-in-aid are reallocated to each region based on its share of the Nation's total personal income.

SINGLE-REGION CASE: A MONTANA COAL SCENARIO 1/

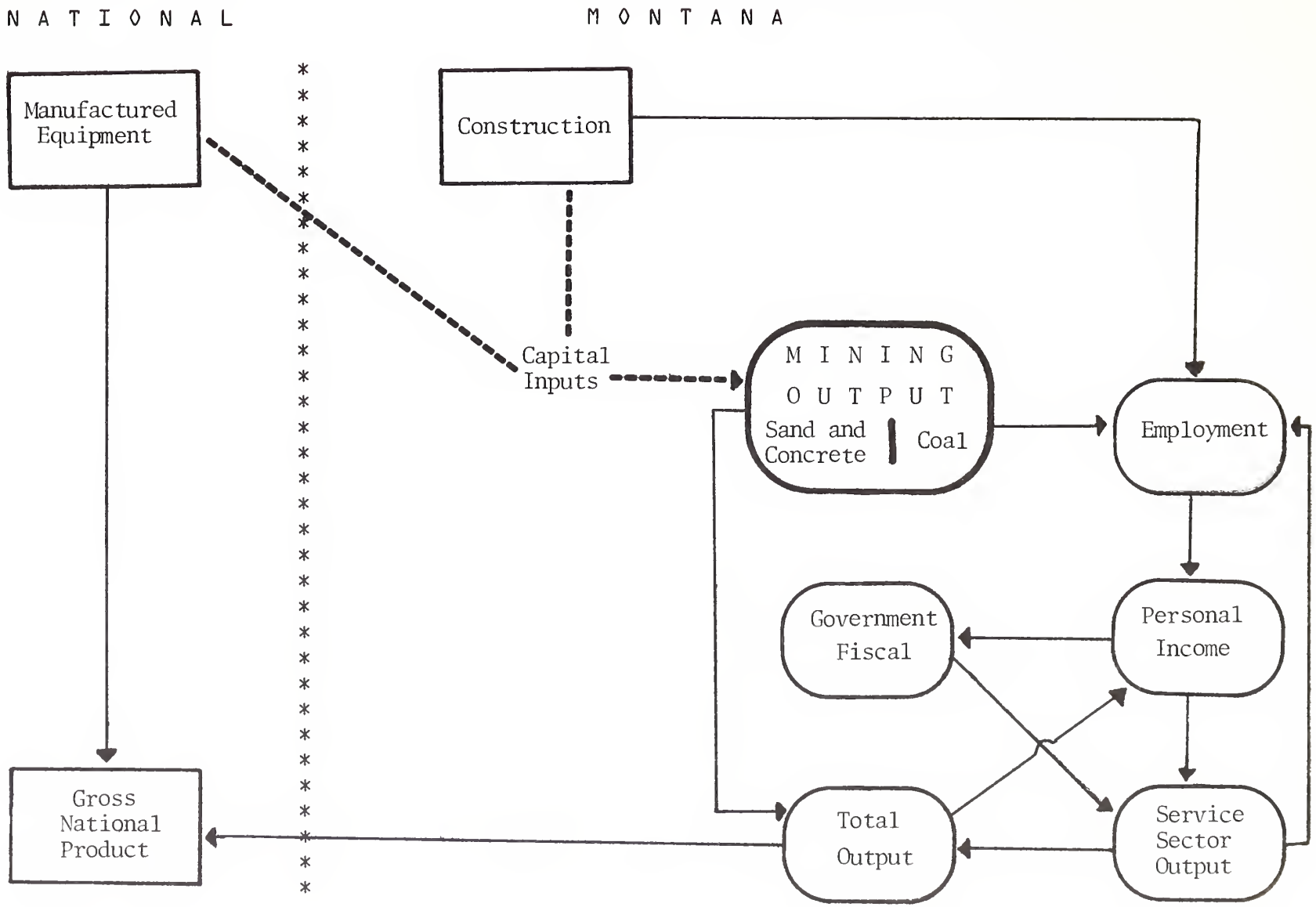
The first scenario examines a single-region application of the NRIES model system, in which the majority of the direct impacts from a national policy occur in one State. Specifically, this scenario deals with the regional economic effects of hypothetical legislation to make the United States more energy self-sufficient. In this scenario it is assumed that because of Department of Energy (DOE) encouragement, six new mines, each with 10-million-ton capacities, are opened in Montana: one in 1978, two in 1979, and one each in 1980, 1981, and 1982.

As noted above, the NRIES model first produces a baseline case, where it is assumed that coal development in Montana (as well as the rest of the United States) follows its historical course through 1985. A second, alternate solution is then made, reflecting the effects that the new coal development scenario would have on Montana and the rest of the United States. Economic and demographic impacts are then derived by comparing the two solutions.

In order to generate an alternate NRIES solution, the levels of activity of certain energy-related variables must be changed to account for the direct impacts on Montana and other States. Figure 7.1 shows the basic NRIES structural relationships that are relevant for this study. On the right side of the diagram are the components of the Montana State model; on the left are the major components of NRIES for the rest of the United States. In the alternate NRIES solution, mining output in Montana is augmented by the amount of new coal to be produced. This additional

1. Partially excerpted from Wendling and Ballard (1980).

Figure 7.1 Simplified N R I E S Flow Diagram for Montana Coal Development



coal, in turn, presupposes increases in Montana construction output, and manufactured equipment output from the rest of the United States. With these three variable changes (increases in Montana mining industry output, Montana construction industry output, and manufactured equipment output in the rest of the United States), NRIES generates the impacts from 1978 to 1985 on the Montana economy and the rest of the United States.

In order to implement this scenario, the DOE provided the direct changes in Montana coal output, construction output, and capital inputs.2/ These inputs are listed in table 7.1 for the years 1978 through 1985.3/ In addition, because of a recent change in the Montana State tax law regarding coal severance taxes, which could not be modeled effectively by NRIES, an annual series of incremental tax revenues generated by the new law was also provided.

As table 7.1 shows, coal output increases steadily during the period as more of the mines are opened. Both construction output and capital equipment inputs increase at a rapid pace until 1981, when almost all the mines have opened. From 1982 to 1985, construction and capital purchases decline annually to maintenance-construction and capital-replacement levels. Since incremental State revenues generated by the severance tax are directly related to coal output, they increase steadily from 1978 to 1985.

NRIES estimates of the total economic and demographic impacts on Montana that result from the advanced development of the six new coal mines are listed in table 7.2. As mentioned earlier, these results represent the differences in any particular year between the control and alternate cases. As shown in table 7.2, population steadily increases throughout the impact period, from 200 additional people in the first year, to almost 31,000 in 1985. From 1978 to 1981, both labor force and employment impacts are higher than population changes. By 1985, however, the situation has stabilized: the 30,900 net migration is balanced by 19,400 additional labor force participants, made up of 17,600 employed and 1,800 unemployed. Construction employment, reflecting new mine development, increases to 1,000 in 1981 and then declines. By 1984 and 1985, however, State construction begins to rise again, due to secondary effects (e.g., higher population, personal income, and tax revenues). An interesting point must be made: although total employment impacts rise every year, only about one-half of the employment impact in any year occurs in the mining and construction industries. Indirect employment impacts on other Montana industries (e.g., services, government, and manufacturing) are almost as high as the direct impact. Table 7.2 also highlights the lead time involved in opening new mines: the construction impact is higher than that for mining for 3 full years. It is not until 1981 that the change in mining output exceeds that in construction.

The State and local tax revenue row in table 7.2 indicates the incremental revenues collected (excluding severance taxes) from such sources as property-type income, personal income, and sales taxes. Increasing annually, these taxes reach $64 million in 1985. Further, when combined with incremental severance taxes, the increased tax revenues represent an addition of well over $130 million to State and local government coffers by 1985.

Impacts on State personal income also increase annually, with the additional income rising almost fivefold between 1980 and 1981. At the same time, mining industry employment more than doubles, and construction industry employment reaches its coal-mine-related peak. Per

---

2. See Urban Systems Research and Engineering, Inc. (1979). The report also contains background information for the coal scenario in Rosebud and Big Horn Counties, and the sources of data for the quantification of NRIES variable changes.

3. An assumption is made that initial purchases of capital equipment are from out-of-State sources. The amount of capital equipment (manufactured durables) purchased from a particular State is directly related to the size of the manufacturing base in that State and inversely to the distance from Montana.

Table 7.1

Coal Development Assumptions in Montana

	1978	1979	1980	1981	1982	1983	1984	1985
	(Millions of 1972 Dollars)							
Coal Output	0.2	3.8	17.5	38.3	63.6	91.9	109.8	120.8
Construction Output	2.6	10.3	21.7	27.7	27.1	20.1	13.0	6.5
State Revenues (Severance Tax)	17.5	19.1	24.6	32.9	42.8	54.4	61.6	66.7
Capital Inputs from Rest of U.S.	6.3	23.8	50.1	63.9	62.7	46.4	30.1	15.0

Table 7.2

Coal Development Impacts in Montana

	1978	1979	1980	1981	1982	1983	1984	1985
				(Thousands)				
Population	0.2	0.8	2.3	5.5	10.3	16.6	23.7	30.9
Labor Force	0.6	1.2	3.7	6.5	10.4	14.1	17.5	19.4
Unemployment	*	*	0.1	0.3	0.6	1.0	1.5	1.8
Employment	0.6	1.2	3.6	6.2	9.8	13.1	16.0	17.6
Mining	*	0.2	1.1	2.6	4.4	6.3	7.4	7.5
Construction	0.1	0.4	0.8	1.0	0.9	0.7	0.8	1.1
All Other	0.5	0.6	1.7	2.6	4.5	6.1	7.8	9.0
				(Millions of 1972 Dollars)				
Output	11.0	21.1	75.4	121.8	187.8	235.4	281.3	301.5
Mining	0.2	3.9	19.1	42.6	71.3	100.0	112.1	110.0
Construction	2.7	10.5	21.7	26.2	23.7	17.6	17.4	25.5
All Other	8.1	6.7	34.6	53.0	92.8	117.8	151.8	166.0
				(Millions of Dollars)				
State and Local Tax Revenues**	0.5	2.1	7.2	16.2	28.2	42.1	54.9	64.0
Personal Income	7.2	24.0	32.3	159.7	261.5	367.9	455.7	509.6
				(Dollars)				
Per Capita Income	8.	23.	81.	142.	211.	272.	264.	215.

*Less than 0.05.
**Does not include severance taxes.

capita income impacts grow from $8 in 1978 to a maximum of $272 in 1983. Between 1983 and 1984, mining employment increases start to stabilize, rising by only 1,100, about the same as between 1979 and 1980. Construction employment stabilizes, and a relatively large inmigration forces the per capita personal income impact down to $264 in 1984 and $215 in 1985.

Because it is a multiregion model, NRIES also provides impact estimates for the remainder of the United States. Table 7.3 presents selected output, employment, and personal-income impacts for Montana and the remaining 50 States as a percent of the total impact generated in the United States. These results show that impacts on total output in Montana stay well below one-half of the U.S. total impact for the entire period. Because the purchase of the initial capital equipment was made outside the State, nearly all of the impacts on manufacturing output occur outside the State in 1978. By 1985, the Montana share of manufacturing-output impacts rises to only 4.5 percent. This is because the State has one of the smallest manufacturing sectors in the Nation.4/ In contrast, initial impacts on government output are predominantly felt in Montana, mainly due to the severance tax. By 1982, however, the distribution of government impacts stabilizes at about 65 percent in Montana and 35 percent in the rest of the Nation.

As would be expected, the distribution of employment impacts is similar to that of output. After the first year, total employment impacts rise from a 30/70 percent Montana/rest-of-the-United States distribution, to a stable 40/60 percent split. Again, almost all manufacturing impacts occur outside of the State. By 1984, government employment impacts stabilize at 90 percent in Montana, compared with 10 percent outside of the State. After the initial impact year, the personal-income impacts steadily rise in Montana relative to the rest of the Nation. The Montana share increases from 27 percent in 1979 to about 35 percent in 1984.

Well over 60 percent of the major economic impacts from new coal development in Montana are generated outside of the State. Table 7.4 lists the distribution of total output, employment, and personal income impacts by BEA region5/, shown as a percent of the total national impact. These data indicate that regional patterns through time are very similar for all three major economic indicators. Excluding the Rocky Mountain region, which includes Montana, the largest impacts for each of the three indicators during the first 2 years are registered by the Great Lakes region (between 20 and 30 percent of the total). The Mideast region follows next, with about 10 percent of the impacts. The New England region is the least affected by the new coal developments in Montana, with only about 2 percent of the national output, employment, and income impacts.

By 1985, the Great Lakes' share of the impact increases to almost 40 percent of the national total, equaling the impact in the Rocky Mountain region. This result seems reasonable, since the demand for manufacturing durables equipment undoubtedly continues, as additional mining is induced in Montana in response to the new activity. The strong initial impact in the Mideast decreases to less than 5 percent by 1985, while the impact in the Southeast region increases to 11 percent of the total impact by 1985. The New England region continues to be the least affected through 1985, with small negative impacts occurring in the final year.

---

4. In 1976-77, Montana manufacturing earnings accounted for only 10.8 percent of State total personal income. This is in contrast to 43.3 percent for Michigan, the State with the largest share in manufacturing, and to a 26.1-percent national average share. For a more detailed discussion of the structure and recent growth in the Montana economy, see U.S. Department of Commerce (1979).

5. See figure 2.1, for the States in each BEA region.

Table 7.3

Montana Coal Development Impacts in Montana v. Rest of U.S.

	1978	1979	1980	1981	1982	1983	1984	1985
			(Percent of 1972 Dollars)					
Total Output								
U.S.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Montana	43.1	22.6	30.5	29.3	33.7	38.7	42.9	43.2
Rest of U.S.	56.9	77.4	69.5	70.7	66.3	61.3	57.1	56.8
Manufacturing								
Montana	*	.8	1.9	2.0	2.8	3.6	4.2	4.5
Rest of U.S.	99.9	99.2	98.1	98.0	97.2	96.4	95.8	95.5
			(Percent of Persons)					
Total Employment								
Montana	54.5	29.3	31.3	30.4	33.1	36.9	39.5	40.0
Rest of U.S.	45.4	70.7	68.7	69.6	66.9	63.1	60.5	60.0
Manufacturing								
Montana	*	0.8	1.5	2.7	2.0	2.5	2.9	3.3
Rest of U.S.	99.9	99.2	98.5	98.3	98.0	97.5	97.1	96.7
Government								
Montana	99.9	99.9	99.9	94.5	92.1	91.7	90.0	89.7
Rest of U.S.	*	*	*	5.5	7.9	8.3	10.0	10.3
			(Percent of Dollars)					
Personal Income								
Montana	41.6	27.4	30.5	29.8	31.4	34.2	35.2	34.0
Rest of U.S.	58.4	72.6	69.5	70.2	68.6	65.8	64.8	66.0

*Less than 0.05.

Table 7.4

Montana Coal Development Impacts by BEA Regions*

	1978	1979	1980	1981	1982	1983	1984	1985
Total Output				(Percent of U.S.)				
New England	2.0	2.5	2.0	1.7	1.3	0.6	0.0	-0.5
Mideast	10.8	14.3	11.6	11.5	9.5	6.7	3.5	0.8
Great Lakes	24.2	32.9	33.7	35.4	34.5	35.5	37.3	40.1
Plains	2.9	3.6	2.5	2.6	2.5	1.9	1.3	1.1
Southeast	7.2	10.4	9.0	9.6	10.0	10.1	10.0	10.8
Southwest	2.2	3.5	2.5	2.1	1.7	1.1	1.2	2.1
Rocky Mountain	42.3	23.0	30.9	29.6	33.9	38.6	42.5	42.9
Far West	7.8	9.8	7.9	7.5	6.7	5.5	4.0	2.7
Total Employment				(Percent of U.S.)				
New England	1.8	2.4	1.9	1.6	1.1	0.6	0.1	-0.2
Mideast	8.8	11.7	10.5	9.9	8.4	6.2	3.9	1.7
Great Lakes	19.3	29.1	30.7	33.1	33.3	34.3	36.0	39.0
Plains	2.6	3.8	3.4	3.4	3.3	3.0	2.7	2.5
Southeast	7.9	11.7	11.3	11.7	12.0	11.7	11.3	11.4
Rocky Mountain	50.0	29.4	31.2	30.3	32.9	36.3	38.8	39.2
Far West	6.1	8.1	7.1	6.5	5.8	4.9	4.2	3.5
Personal Income				(Percent of U.S.)				
New England	1.8	2.1	1.6	1.6	1.3	1.0	0.7	0.5
Mideast	10.5	12.9	11.7	11.2	9.9	8.1	6.2	4.7
Great Lakes	26.2	32.0	32.8	34.6	34.5	34.9	36.4	39.0
Plains	2.8	3.4	3.0	3.1	3.2	3.0	2.9	2.8
Southeast	6.7	9.8	9.3	10.1	10.8	11.0	11.0	11.5
Southwest	2.7	3.8	3.5	3.3	3.2	3.0	2.9	2.8
Rocky Mountain	42.5	28.5	31.7	30.6	31.9	34.5	35.6	34.4
Far West	6.6	7.5	6.4	5.7	5.2	4.6	4.0	3.5

*U.S. total may not add to 100.0 because of rounding.

MULTIREGION CASE: A NATIONAL COAL SCENARIO 6/

In a second type of analysis, NRIES is applied in a national context, with the direct impacts occurring in several but not all States. This scenario involves a strategy of advanced coal development similar to the Montana scenario but now occurring in 15 of the major coal producing States. Since many of the results of this scenario are parallel to those described above, both methodological changes and results are presented only briefly.

The Department of Energy's 1977 Annual Report to Congress presents six hypothetical scenarios of national coal development that might be achieved by 1985. The differences in the scenarios, which are listed for the 12 DOE multistate coal producing regions, are caused by varying assumptions about the future supply, demand, and price of energy sources. NRIES, in turn, is employed to generate the economic and demographic impacts resulting from the differing coal production and price levels. As before, a NRIES control solution is first estimated, which in this case is matched as closely as possible to one of the coal scenarios. Any of the other scenarios may then be defined as the alternate solution.7/

As with the Montana case described earlier, certain direct regional impacts are modeled as exogenous inputs to NRIES. The top half of figure 7.2 shows the steps necessary to obtain these direct impacts. The DOE regional coal output totals are distributed to the States based on coal mine capacity surveys. This increased output of coal presupposes certain construction inputs and inputs of manufactured equipment from both coal producing and non-coal-producing States. For States with recently enacted severance tax laws, which would not be effectively modeled by NRIES, the direct additional taxes are calculated. With these four variable changes, the model then generates an alternate solution. By subtracting the results of the control solution from the alternate solution, the impacts of the advanced coal development on each of the States and the Nation are generated.

The lower half of figure 7.2 represents the structural linkage between the direct inputs for the alternate national coal development scenario and the NRIES model. Note that the economic impacts on each of the States, shown at the bottom of figure 7.2, are derived in the same way as the Montana case, shown in figure 7.1. Here we see how closely related are the applications of NRIES in both the single and multiregion context.

Table 7.5 lists the direct inputs to NRIES as they appear in the DOE national coal scenario. Because of the lead time involved with the opening of mines, it is assumed that additional coal does not become available until 1980. Starting with an initial increase of 36.6 million tons nationally in 1980, additional coal production increases annually by between 20 and 30 million tons, resulting in a final cumulative increase of 158 million tons by 1985. Of the 15 States where there is advanced coal development, Wyoming has the largest increment, about one-third of the total tonnage. This is followed by about 10 percent each in Kentucky and Montana.8/ Table 7.5 also lists the direct additions to construction output by State in millions of 1972 dollars. New mine construction, which starts in 1978, peaks at $78.5 million in 1979, and declines appreciably by 1985. The last two lines list the combined (national) severance tax revenues collected and capital equipment purchased. The additions to severance taxes start with the first-year coal production in 1980, and increase annually to $51.8 million by 1985. Capital equipment purchases start in 1978, peak at $178.5 million in 1979, and decline annually thereafter as more mines become operational.

---

6. Partially excerpted from Wendling and Ballard (1980).

7. The NRIES control solution was matched to DOE scenario A. The alternate solution chosen was DOE scenario E.

8. The Montana single-region application discussed in the previous section assumed a much larger Montana production increase than employed here.

Figure 7.2 N R I E S Flow Diagram for a National Coal Scenario

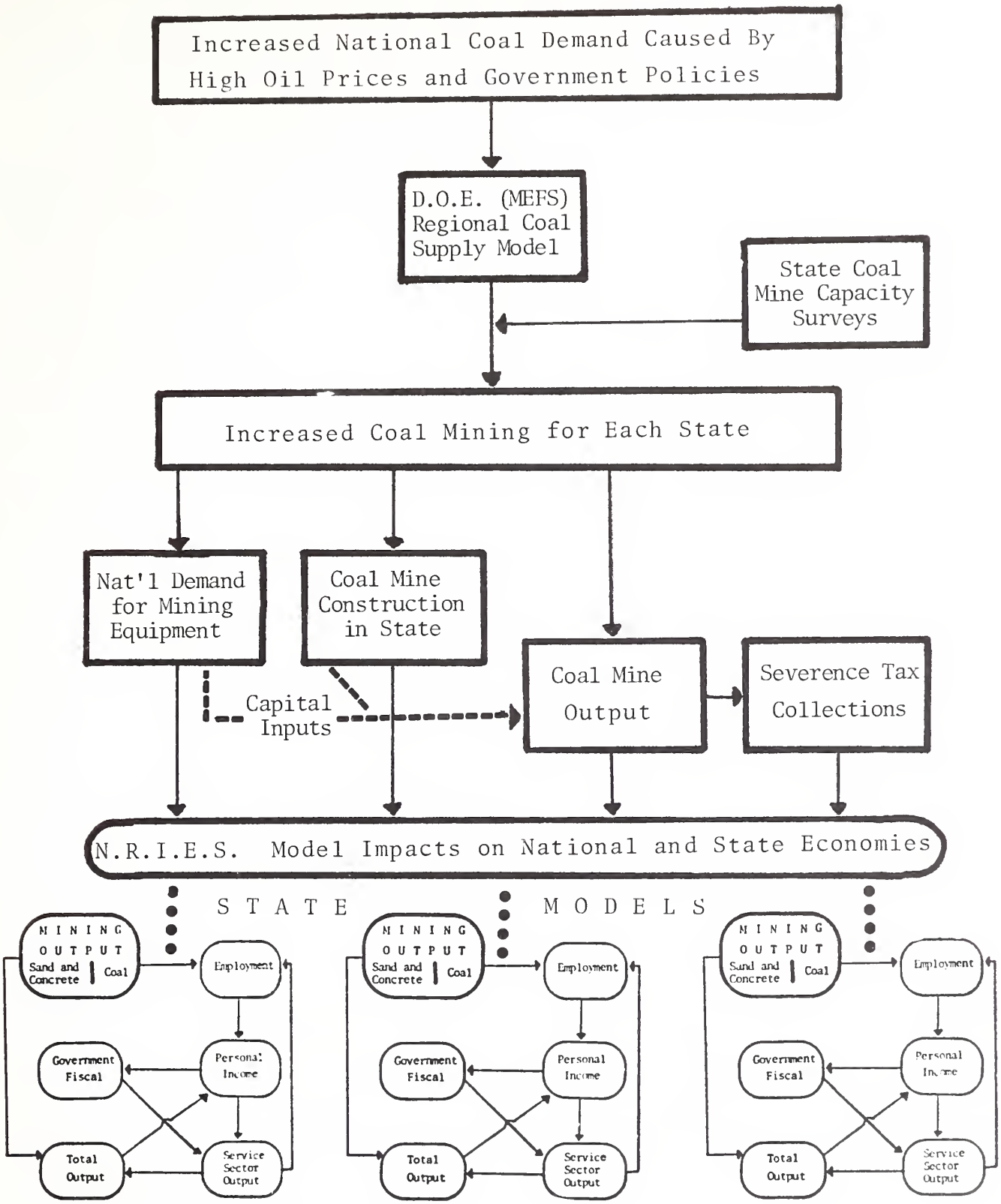


Table 7.5

Advanced Coal Development Assumptions for the National Coal Development Scenario

	1978	1979	1980	1981	1982	1983	1984	1985
Cumulative Increase in Coal Production (millions of tons)								
United States	-	-	36.6	67.2	93.9	115.4	136.9	158.0
Colorado	-	-	1.9	3.1	4.5	5.4	5.6	7.0
Illinois	-	-	2.7	5.8	7.8	9.0	10.6	11.0
Indiana	-	-	.2	.2	2.3	3.0	4.2	5.0
Kentucky	-	-	2.6	4.3	6.5	9.9	12.8	16.0
Montana	-	-	2.7	7.1	10.3	11.8	12.8	15.0
New Mexico	-	-	1.2	2.3	4.6	6.6	7.8	10.0
North Dakota	-	-	.9	3.4	4.8	5.1	8.0	9.0
Ohio	-	-	.5	.7	.8	.9	1.0	1.0
Pennsylvania	-	-	.4	.7	.8	1.0	1.0	1.0
Texas	-	-	2.5	4.9	7.1	9.0	10.9	11.0
Utah	-	-	.2	.3	.4	.5	.8	1.0
Virginia	-	-	.2	.6	.7	1.0	1.0	1.0
Washington	-	-	.0	.0	.2	.5	.8	1.0
West Virginia	-	-	8.6	12.3	13.6	14.0	14.0	14.0
Wyoming	-	-	12.2	21.5	29.5	37.7	45.7	55.0
Construction Output Within State (millions of 1972 dollars)								
United States	58.3	78.5	70.5	52.0	43.5	30.5	16.4	4.7
Colorado	2.8	3.7	3.1	2.0	1.7	1.2	.8	.3
Illinois	4.8	6.5	5.6	3.6	2.4	1.4	.6	.1
Indiana	.6	1.5	2.1	2.5	2.1	1.3	.7	.2
Kentucky	3.9	5.7	6.2	6.1	6.0	4.5	2.4	.7
Montana	6.0	8.3	7.3	4.8	3.4	2.3	1.4	.5
New Mexico	2.3	3.8	4.1	4.0	3.6	2.5	1.5	.5
North Dakota	2.8	3.8	3.8	3.3	2.9	2.3	1.2	.2
Ohio	.6	.7	.5	.2	.1	.1	.0	.0
Pennsylvania	.6	.7	.5	.3	.1	.0	.0	.0
Texas	4.3	6.0	5.6	4.0	2.8	1.5	.5	.0
Utah	.3	.4	.3	.3	.4	.3	.2	.1
Virginia	.5	.6	.6	.3	.2	.1	.0	.0
Washington	.0	.2	.4	.5	.5	.4	.2	.0
West Virginia	10.3	11.6	7.3	1.8	.5	.1	.0	.0
Wyoming	18.7	25.1	23.1	18.3	16.6	12.3	6.9	2.0
New Severance Tax Collections (millions of 1972 dollars)								
United States	-	-	10.1	20.1	29.0	36.4	42.7	51.8
Investment in Manufactured Equipment (millions of 1972 dollars)								
United States	132.5	178.5	160.1	118.3	98.8	69.3	37.2	10.6

Impacts on State and BEA region gross output that result from the national coal development scenario are listed in table 7.6. The results indicate that the total output impacts for the United States increase annually from $324 million in 1978 to $3.7 billion in 1985. Except for 2 years, Illinois registers the highest impacts during the period. This is not surprising for two reasons. First, it is one of the States where a high-level advanced coal development is assumed. Second, it has a very high manufacturing durables base and is a source for not only mining equipment but also construction-related equipment.

Across the Nation, non-coal-producing States, such as California and Michigan, generally show stronger output advances in the earlier years during the construction and capital-equipment-purchase period. Conversely, the coal mining States show greater impacts in the later years. Beginning in 1980, the first year that the additional coal is mined, West Virginia and Pennsylvania output jumps dramatically. By 1983, Kentucky begins to register high output gains, reaching $310 million in 1985. By 1985, Illinois shows the highest gain, $507 million, and West Virginia, the second highest, $324 million. A few States register declines in output, due to the national advanced-coal-development scenario, particularly in the later years. New Hampshire, Massachusetts, and South Dakota have small output losses of between $1 million and $4 million in 1985, all due to population outmigration.

NATIONAL CASE: A GRANTS-IN-AID SCENARIO 9/

A third type of NRIES application involves the analysis of a fully national scenario. Its purpose is to show how NRIES can be used to analyze the changes in the overall pattern of regional growth caused by a broad-based Federal policy that directly affects all of the States. As an illustration, the focus is on estimating the regional economic impacts that are associated with existing Federal grants-in-aid programs. The extent of redistributive effects of the current grants-in-aid system is determined in this scenario through an analysis of the historical impacts from 1969 to 1977 of existing grants relative to the impacts generated by a distributionally neutral allocation of grants based on personal income.

The ability of NRIES to provide estimates of impacts of Federal grants is dependent upon the extent to which the model captures relationships between the fiscal and real sectors of the economy. Figure 7.3 provides an overview of these basic relationships. As indicated in the chart, State and local grants-in-aid are considered in NRIES as an exogenously determined policy variable. The level of these payments, together with variables reflecting general economic activity (total output or total income), determine State and local government revenues. State and local government expenditures are then expressed as a function of State and local total revenues, with State and local output, employment, and wages being expressed as a function of State and local expenditures. Finally, State and local government output, employment, and wages directly affect total output and income and, indirectly, State and local government revenues.

Based on these relationships, estimates of the extent to which existing grants-in-aid programs redistribute income regionally can then be obtained. In order to accomplish this, the existing distribution of grants is compared to a hypothetical case where aid is reallocated to each State based on that State's share of U.S. total personal income. In both cases, the national level

---

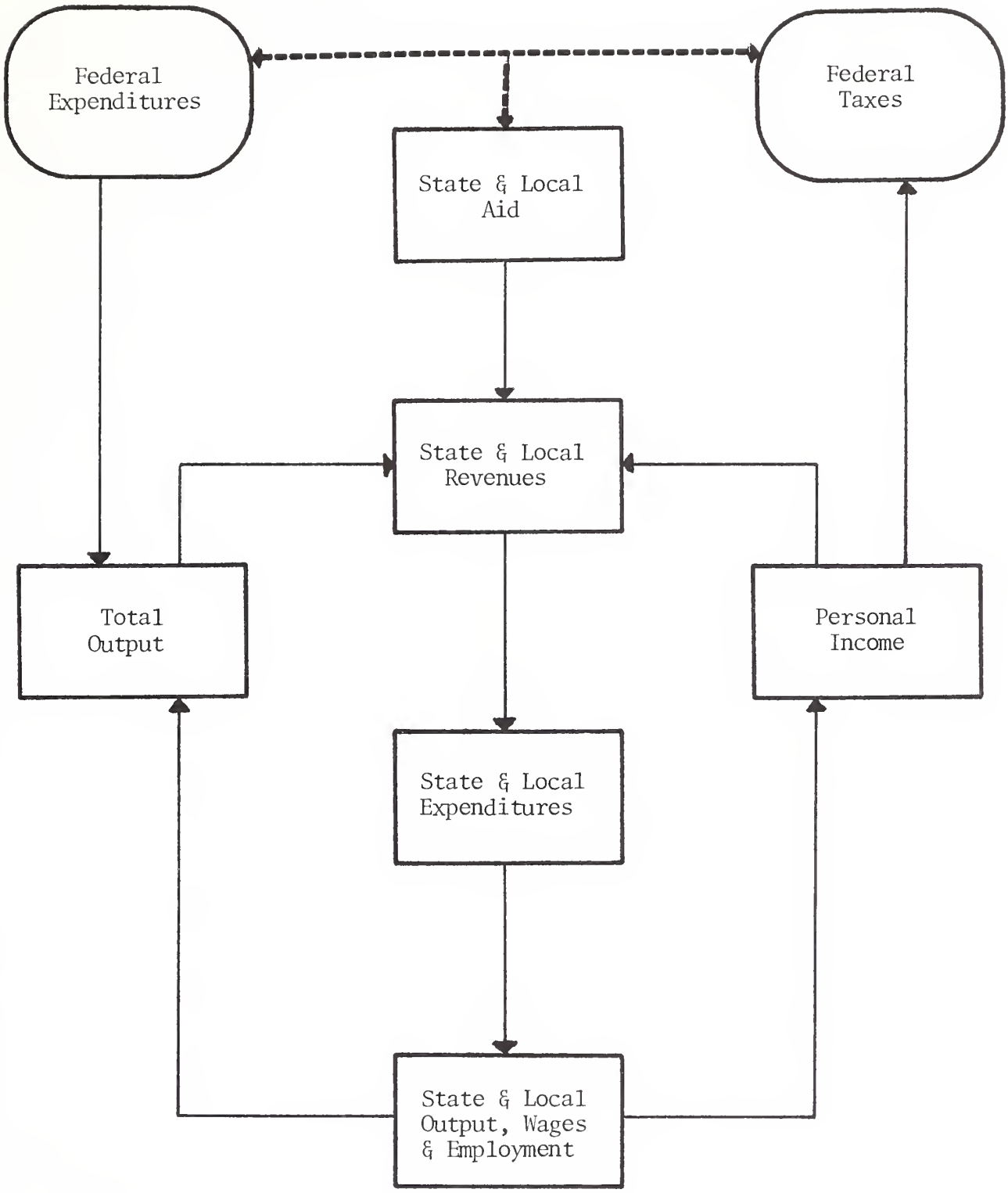
9. Partially excerpted from Gustely and Ballard (1979a).

Table 7.6

Regional Impacts on State Gross Product Originating in a National Coal Development Scenario

	1978	1979	1980	1981	1982	1983	1984	1985
				(millions of 1972 dollars)				
United States	323.8	676.0	1356.4	1928.8	2476.8	2850.3	3225.6	3711.9
New England	9.7	20.3	28.7	32.6	34.3	29.3	23.9	20.4
Mideast	55.1	125.9	218.2	297.4	363.6	399.2	427.2	470.2
Great Lakes	87.0	202.0	346.1	489.6	658.3	754.3	867.2	1020.4
Plains	16.9	33.4	58.2	84.2	107.5	121.8	142.3	164.0
Southeast	57.7	113.2	352.0	534.8	683.1	820.5	953.3	1117.3
Southwest	25.1	50.7	105.8	157.2	215.6	262.8	310.7	350.8
Rocky Mountain	38.4	59.0	142.9	208.5	274.6	328.6	373.8	440.8
Far West	34.0	71.5	104.7	124.5	139.8	133.8	127.1	127.9
Alabama	1.4	3.1	6.6	10.8	16.2	22.3	29.7	38.5
Alaska	.1	.1	.1	.2	.3	.3	.3	.5
Arizona	2.3	5.8	10.1	14.3	17.8	20.8	22.6	25.4
Arkansas	1.0	2.5	5.5	8.6	12.0	15.6	19.3	23.7
California	26.6	55.6	80.1	92.6	99.5	88.5	75.8	68.7
Colorado	6.8	11.6	33.6	48.6	65.4	76.5	79.5	94.4
Connecticut	4.5	9.9	14.6	18.4	21.7	21.9	22.5	24.2
Delaware	.3	1.2	2.5	4.2	6.0	7.9	9.6	11.5
D. C.	.2	.3	2.3	4.6	6.4	8.0	9.9	12.5
Florida	5.8	14.3	25.3	35.4	45.9	54.3	62.7	73.4
Georgia	2.7	6.5	14.9	23.1	30.5	36.5	40.7	45.6
Hawaii	.1	.2	.4	.6	.9	1.1	1.3	1.6
Idaho	.7	1.4	2.3	3.1	4.0	4.5	5.2	6.1
Illinois	27.9	60.2	115.8	190.7	269.7	336.7	416.9	507.3
Indiana	16.7	38.4	64.4	87.9	125.4	144.9	168.4	195.3
Iowa	3.3	7.0	11.1	15.0	19.0	21.0	23.3	27.0
Kansas	2.2	4.7	7.4	9.3	11.3	12.3	13.5	15.6
Kentucky	10.4	20.1	55.8	91.9	134.1	189.2	245.3	310.2
Louisiana	1.3	2.7	5.0	7.2	9.3	11.5	14.3	18.9
Maine	.5	1.1	1.5	1.6	1.6	1.2	.8	.4
Maryland	2.7	6.1	15.0	23.6	30.6	36.9	44.1	53.1
Massachusetts	3.1	6.2	8.2	8.1	6.8	3.7	-.1	-3.1
Michigan	22.8	57.4	92.2	121.3	155.4	164.6	178.4	208.5
Minnesota	2.1	4.6	9.6	13.8	17.5	20.9	22.9	26.2
Mississippi	2.2	4.9	7.8	10.1	12.4	13.3	14.5	16.4
Missouri	4.8	10.1	19.0	27.5	36.4	43.8	51.3	61.1
Montana	8.7	13.8	22.0	32.7	42.9	49.3	54.6	63.5
Nebraska	1.1	2.3	3.8	5.0	6.0	6.5	6.6	7.2
Nevada	.1	.2	1.4	3.0	4.7	6.4	7.8	9.3
New Hampshire	.2	.3	.5	.3	-.3	-1.1	-2.3	-3.7
New Jersey	8.8	21.0	30.4	39.6	42.2	43.5	38.9	39.4
New Mexico	4.0	7.7	15.3	22.2	34.9	45.9	54.2	67.5
New York	21.3	49.6	79.3	100.8	119.3	120.9	117.9	114.9
North Carolina	5.6	12.6	25.1	37.5	49.2	58.1	67.2	78.4
North Dakota	3.5	4.7	7.4	13.9	17.6	18.0	25.5	28.0
Ohio	13.4	30.6	49.4	55.6	65.0	58.4	47.6	43.8
Oklahoma	1.3	2.7	4.1	4.8	5.5	5.6	5.9	6.7
Oregon	4.1	9.3	14.0	18.1	22.1	23.7	25.8	29.1
Pennsylvania	21.7	47.8	88.8	124.5	159.1	182.0	206.8	238.8
Rhode Island	1.0	2.1	2.8	3.1	3.1	2.4	1.9	1.6
South Carolina	1.7	4.2	7.3	10.5	13.5	15.7	17.7	20.4
South Dakota	.0	-.0	-.0	-.2	-.4	-.6	-.9	-1.0
Tennessee	5.5	13.4	24.7	37.6	51.0	63.4	76.2	92.1
Texas	17.5	34.4	76.2	115.9	157.4	190.6	228.0	251.2
Utah	1.2	2.2	5.1	6.7	8.0	8.9	11.2	13.6
Vermont	.3	.7	1.0	1.3	1.4	1.3	1.1	1.0
Virginia	5.4	10.3	24.0	38.9	47.6	57.3	65.1	75.6
Washington	3.0	6.2	8.6	9.9	12.3	13.7	16.1	18.7
West Virginia	14.7	18.6	150.1	223.2	261.2	283.2	300.8	323.6
Wisconsin	6.2	15.5	24.3	34.0	42.8	49.6	55.9	65.6
Wyoming	21.0	30.0	79.9	117.3	154.6	189.3	223.3	263.2

Figure 7.3: The Structure of the State and Local Government Fiscal Sector in NRIES



of grants is set equal to the actual historical value for each year.10/ Since the emphasis here is to characterize the existing allocation of aid relative to a distributionally neutral income-based formula11/, the solution of the model corresponding to the income-based formula has been adopted as the NRIES control solution. The NRIES simulation of the historical period using the actual system of allocation, therefore, is the impact solution.

Data relating to the differences between actual grant levels and those based on a personal income formula are exhibited in table 7.7. Two conclusions concerning the differences in aid allocations under these alternatives are worthy of note. First, these data indicate that for the entire period, the Southeast, Rocky Mountain, and Far West regions consistently received more aid, and the Great Lakes and Plains regions, less aid, under the actual system than they would have received under a formula based on personal income. Second, in three regions there are significant relative changes. New England and the Mideast received less aid under the actual system during the latter part of the period.12/ The Southwest, on the other hand, received more aid under the actual system early in the period, but less in later years.

In terms of absolute magnitude of the difference, the Great Lakes region consistently exhibits the largest deficit (less under the actual system), amounting to about $2.4 billion in 1977. On the other hand, the Southeast and Far West regions register the largest 1977 surpluses (more under the actual system), about $1.1 billion and $1.3 billion, respectively. In relative terms, the Great Lakes region registers the largest deficit associated with the actual system, amounting to 23.4 percent, or $58 per capita, in 1977, while the Rocky Mountain region registers the largest surplus associated with the actual sytem, amounting to 22.2 percent, or $73.70 per capita, in 1977.

Data relating to the total economic impact of the actual system, relative to the hypothetical income-based formula, are presented in table 7.8. Generally, these results indicate that the nationwide effect of the actual system of aid (as compared with the income based system) is to produce lower levels of economic activity, regardless of the period chosen for study. This is because the actual system of aid tends to distribute larger amounts of aid to regions with low multipliers (those that generate lower secondary effects per dollar of aid) than would an aid system based on the regional distribution of personal income. As discussed in chapter 6, these multiplier differences probably reflect labor productivity differences across regions.

---

10. Specifically, the aid under this simulation was allocated according to the following formula:

$$AID_t^i = AID_t^n * \frac{Y_{t-1}^i}{Y_{t-1}^n}$$

where:

i	is State
n	is Nation

11. The assumption is that since the majority of Federal Government revenues are derived from the Federal personal income tax, the burden of these revenues across regions is distributed in a manner similar to the distribution of personal income. Therefore, an allocation of grants back to States, based on their share of U.S. personal income, represents a neutral position with respect to the interregional distribution of personal income. This represents only a rough approximation of a true distributionally neutral system, since no account is taken of the differences in the income distributions of States.

12. This results because aid programs instituted in the mid-1970's tended to be targeted toward the urbanized areas of the country, many of which are located in the New England and Mideast regions.

Table 7.7

Distribution of Federal Grants-in-Aid Payments: Comparison of Actual Versus a Hypothetical Income Based Formula*

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Changes in GIA Payments: Actual Values - Personal Income Formula (Millions $)									
United States	.0	.0	.0	.0	.0	.0	.0	.0	.0
New England	-152.0	-158.3	-162.4	-158.8	-241.7	-52.0	-121.9	.7	93.1
Mideast	-683.3	-719.4	-794.3	-535.5	273.3	55.5	-14.9	302.5	74.2
Great Lakes	-929.3	-1293.6	-1394.5	-1322.6	-1742.6	-1455.5	-1951.4	-1989.0	-2380.2
Plains	-21.5	-25.0	-81.3	-191.5	-384.5	-513.0	-192.4	-214.6	-120.1
Southeast	622.5	577.4	936.9	705.8	594.9	888.1	1307.6	944.5	1091.6
Southwest	237.8	272.9	197.5	180.7	4.0	6.8	28.7	-224.9	-521.4
Rocky Mountain	232.5	265.0	280.4	313.1	297.1	261.1	310.7	436.3	435.5
Far West	693.2	1081.0	1017.8	1008.8	1199.5	809.0	633.5	744.5	1327.3
Percent Difference in GIA Payments: Actual Values - Personal Income Formula									
United States	.0	.0	.0	.0	.0	.0	.0	.0	.0
New England	-14.3	-13.0	-10.9	-8.8	-11.0	-2.1	-4.5	.0	2.5
Mideast	-17.7	-16.2	-14.8	-7.9	2.9	.6	-.1	2.4	.5
Great Lakes	-29.8	-38.8	-34.6	-25.7	-27.4	-20.1	-25.3	-21.3	-23.4
Plains	-1.5	-1.5	-4.3	-8.8	-14.6	-17.6	-5.6	-5.3	-2.7
Southeast	15.9	13.1	16.9	11.2	7.7	10.4	13.0	8.3	8.4
Southwest	15.0	15.1	9.5	7.5	.1	.2	.8	-5.5	-11.6
Rocky Mountain	36.3	35.8	32.3	30.6	24.3	20.5	21.3	24.2	22.2
Far West	19.6	25.2	21.0	18.1	17.3	11.8	8.5	8.4	12.7
Changes in GIA Per Capita: Actual Values - Personal Income Formula (Dollars)									
United States	.0	.0	.0	.0	.0	.0	.0	.0	.0
New England	-13.0	-13.3	-13.5	-13.1	-19.9	-4.3	-10.0	.1	7.6
Mideast	-16.2	-16.9	-18.5	-12.5	6.4	.13	-.3	7.1	1.7
Great Lakes	-23.3	-32.1	-34.4	-32.4	-42.7	-35.6	-47.6	-48.6	-58.0
Plains	-1.3	-1.5	-4.9	-11.5	-23.1	-30.8	-11.5	-12.8	-7.1
Southeast	14.3	13.1	21.0	15.5	12.9	18.9	17.4	19.6	22.4
Southwest	14.6	16.4	11.7	10.5	.2	.4	1.6	-12.0	-27.3
Rocky Mountain	47.0	52.6	54.3	59.0	54.2	46.7	54.7	75.4	73.7
Far West	26.0	39.9	37.1	36.4	42.8	28.5	22.0	25.4	44.4

*Totals may not add due to rounding.

Table 7.8

Impact of Selected Variables Due to a Shift from a Personal Income to the Actual GIA Formula (Millions $)

	United States	New England	Mideast	Great Lakes	Plains	South-East	South-West	Rocky Mountain	Far West
Impacts (Actual - Income Formula) For the Year: 1969									
Personal Income, Total	-165.8	3.6	-152.9	-373.2	-1.5	22.6	216.4	17.1	102.4
Wage Income	-206.5	-.1	-155.1	-391.9	-4.4	24.9	199.3	16.0	104.8
Nonwage Income	41.2	3.8	2.2	18.8	3.0	-2.2	17.0	1.1	-2.4
Gross Output, Total	-548.4	-52.1	-325.3	-983.1	-23.1	64.8	359.7	67.2	343.5
Manufacturing	-366.3	-11.2	-87.8	-341.6	12.6	-17.3	33.7	5.6	64.9
Nonmanufacturing (Private)	-66.9	-3.6	-70.9	-151.1	-3.9	.0	94.6	9.5	58.3
Government	-115.2	-37.3	-166.6	-490.5	-6.6	82.0	231.5	52.1	220.2
Employment	-12.9	.8	-15.3	-46.4	-.3	4.9	30.1	2.6	10.6
State & Local Government Expenditure	-55.0	-130.2	-633.7	-909.1	-23.9	579.3	225.8	220.6	616.2
Impacts (Actual - Income Formula) For the Year: 1977									
Personal Income, Total	-1025.6	50.3	-304.7	-1917.4	-116.3	259.3	-87.6	59.8	421.5
Wage Income	-1062.2	46.8	214.6	-1835.8	-109.8	267.9	-81.3	55.6	379.9
Nonwage Income	36.6	3.6	90.2	-81.6	-6.5	-8.7	-6.3	4.2	41.7
Gross Output, Total	-2242.8	100.9	299.5	-3673.6	-182.5	359.3	-59.4	128.4	784.7
Manufacturing	-1170.2	18.6	23.4	-1234.8	-77.2	-41.5	-17.1	8.8	149.7
Nonmanufacturing (Private)	-413.5	35.4	68.8	-844.1	-86.9	147.9	-57.4	30.8	291.0
Government	-659.2	46.9	207.2	-1594.7	-18.4	252.9	14.2	88.8	342.9
Employment	-64.5	5.3	12.6	-136.8	-7.9	28.5	-.6	6.0	28.4
State & Local Government Expenditure	-11.0	100.3	256.9	-2461.7	-146.2	1067.8	-500.1	421.3	1250.6
Impacts (Actual - Income Formula) For the Period: 1969-1977 Annual Average									
Personal Income, Total	-463.9	-4.7	-765.1	-78.0	118.3	41.2	34.2	236.5	
Wage Income	-439.6	.9	-38.6	-744.9	-69.4	130.4	34.4	32.2	215.3
Nonwage Income	-24.3	-5.6	-7.8	-20.2	-8.6	-12.1	6.8	2.0	21.2
Gross Output, Total	-873.1	-9.8	-124.1	-1303.6	-118.0	134.3	65.3	76.0	406.9
Manufacturing	-413.0	-2.8	-54.5	-395.2	-30.3	-9.9	3.2	5.3	71.1
Nonmanufacturing (Private)	-140.2	3.3	-43.1	-366.4	-38.0	87.7	34.4	18.3	163.5
Government	-315.8	-10.4	-26.6	-542.0	-49.7	56.5	27.7	52.5	172.3
Employment	-28.4	.8	-4.4	-69.9	-7.0	17.5	10.6	4.2	18.6
State & Local Government Expenditure	-62.3	-97.2	-143.4	-1616.1	-196.8	809.6	22.0	303.5	856.1

*Totals may not add due to rounding.

Regionally, the results indicate that, on the average, the actual system of aid produced lower levels of economic activity in the New England, Mideast, Great Lakes, and Plains regions than would occur if aid were allocated based on income. On the other hand, economic activity in the Southeast, Rocky Mountain, and Far West regions was higher under the actual system. Of all the regions, the Great Lakes registered the largest decrease ($3.7 billion) in economic activity attributable to the actual system of aid, while the Far West registered the largest increase ($1.1 billion).13/

---

13. These extreme results occur because both regions register large differences in aid under the actual system as compared to an income-based system and also because their output multipliers are among the largest of any regions.

Chapter 8

SUMMARY AND CONCLUSIONS

Over the past decade, the progress in regional modeling, and most particularly regional econometric forecasting and policy impact modeling, has been impressive. In the early seventies, few single-region econometric models (most with less than 20 behavioral equations) and no national multiregion econometric models existed. At present, single-region models exist for a majority of the States and many metropolitan areas (often with behavioral equations numbering in the hundreds), and a first generation of national multiregion models is operable. Current research is centered on producing second-generation improvements in existing modeling approaches.

NRIES is a second-generation model. Through its bottom-up approach, explicit interregional interactions, and time-series equations, NRIES represents a refinement of existing multiregional research. NRIES was constructed to provide a more comprehensive analytical capability for addressing regional policy alternatives than that available with existing models. The focus of this monograph, therefore, has been to provide the details of the structure, performance, and application of the NRIES model.

SUMMARY

After a brief introduction to the NRIES model in chapter 1, chapter 2 presented a brief analysis of economic trends in each of the States over the 1950-77 time period. The analysis emphasized the divergent State and industry growth trends within the Nation. The time period examined was the estimation period of the NRIES stochastic equations. The trends and patterns are important in that they implicitly affect the parameter estimates and thus the results of NRIES applications. Chapter 3 presented the diverse types of macroeconomic modeling that can be applied to regional analysis. Weaknesses and strengths of both single-region and multiregion models, as well as economic base, input-output, and econometric approaches, were discussed.

Chapters 4 and 5 presented the basic structure of NRIES. In chapter 4, the general specification of the model was described, and the theoretical justification of the overall approach was discussed. Two unique features of NRIES were highlighted: the model's bottom-up configuration and its regional interactional variables. Chapter 5 then presented a detailed description of each equation specification in the various sectors that comprise each State submodel specification of the endogenous national variables.

The performance of NRIES was the focus of chapter 6. Here, the model's nondynamic and dynamic simulation errors were examined and compared with error statistics from other State econometric models. An analysis of NRIES' overall performance suggested that, at the State level, it has a degree of accuracy similar to, or slightly better than, existing single-region models. The second section of chapter 6 presented a multiplier analysis, where NRIES simulated the regional distribution of impacts of a gross output shock to one region, as well as the impacts of an equal shock to all other regions. Here, NRIES' sensitivity to direct regional impacts was tested.

Chapter 7 presented three typical applications of NRIES at the regional, multiregional, and national levels. Each application was discussed, including the nature of the scenario being analyzed, the necessary inputs, and the results as estimated by NRIES.

ADVANTAGES AND LIMITATIONS OF NRIES

NRIES is a multiregional model that can be used to analyze the macroeconomic effects of various policy alternatives. It offers a new approach to regional modeling by its bottom-up orientation and its explicit interregional linkages. It is useful to summarize several of the advantages of the NRIES approach here.

First, because NRIES is an interregional model, it can be used to analyze the spatial relationships among its component State economies. For example, the model is particularly well-suited for the analysis of the economic effects of changes in one State on adjacent States. Single-area models, whether they are for individual States or for the entire Nation, are not suited for such analysis.

Second, because NRIES is a bottom-up model, it is capable of providing estimates of the effects of regional changes in economic activity on the national economy. The consideration of these effects is particularly important when capacity utilization rates or employee productivity levels differ across regions. Many existing regional models distribute given national totals among regions, thereby ignoring the effects that changes in regional activity could have on the Nation.

Third, because it is an integrated national-regional model, the NRIES structure enables the analyst to insure that the sum of regional activity is consistent with reasonable forecasts of national activity. In contrast, forecasts produced by single State models are often overly optimistic due in part to the fact that forecasts of economic trends in competing adjacent States are usually not available for comparison.

Fourth, NRIES was structured to contain great flexibility so that it can be used to examine the effects of a wide range of policy scenarios. For example, NRIES is capable of estimating the regional and national effects of policy changes at the single-region, multi-region, and national levels. In addition, NRIES can be used to analyze the effects of concurrent national and regional policy changes. This latter type of application might include the analysis of the effects of Federally stimulated construction activity that takes place in one State, but which is funded by a Federal tax imposed on residents of all States. This wide flexibility in application is not a characteristic of many other existing multiregional models.

As is the case with any model, NRIES suffers from certain limitations, which affect the ways in which it should be employed. Four of these deserve particular mention here. First, NRIES was built as a regional rather than a national model. Much more attention, then, was paid to the modeling of the variables that show regional variation (e.g., output, employment, migration) than to those that typically show little or no regional variation (e.g., money supply, Federal tax rates, and interest rates). Accordingly, it is more appropriate to employ NRIES in the analysis of the regional impacts of changes in the spatial allocation of Federal grants than for the analysis of the regional effects of changes in Federal tax laws, for instance.

Second, NRIES was built based upon annual rather than quarterly observations. Therefore, it is more appropriate to employ the model for the purpose of medium- and long-term forecasting (3-12 years) and impact analysis than for the purpose of analyzing short-run (1-2 years) cyclical fluctuations.

Third, NRIES was constructed as a relatively aggregative model, rather than one that is capable of analyzing changes in economic activity on a very spatially and industrially detailed basis. For example, NRIES can appropriately be used to analyze the differential impacts of changes in regional expenditures in the construction versus manufacturing sectors in Florida versus Michigan. NRIES could not be easily employed in the determination of differential impacts resulting from changes in regional expenditures in high-rise office versus single family construction in Miami versus Detroit.

Fourth, as is the case with other similar efforts, NRIES was structured as a predominately demand-driven model. This was, to some extent, necessitated by the lack of supply constraints in the regional economies over the estimation period. As a result, the model is most easily applied in the determination of impacts of policies that directly affect demand as opposed to supply variables. Explicit consideration of supply effects of policy changes is generally only possible by imposing constraints on the model from outside the system.

One of the basic underlying reasons for the shortcomings in NRIES is the lack of sufficient regional data. For example, some of the equations in the model, notably consumption, prices, and investment, could not be estimated regionally because inadequate data existed. As a result, it is not possible to analyze variation in these variables across regions in the current model. This is a particular problem in the case of regional investment. If the regional investment process could be modeled, then the national economic impacts of regional economic changes (the so-called "bottom-up effect") could be better understood. Further, these data constraints also limit the modeling of regional consumption behavior, thereby preventing the use of the National Income and Product Accounts structure as a basis for the NRIES model. Finally, the unavailability of yearly trade-flow data necessitated the use of gravity variables as the basic interregional element in NRIES. If adequate trade data were available, the effects of economic changes in one State on adjacent States could be much more effectively modeled.

CURRENT EXTENSIONS OF NRIES

One area of weakness described above is the relatively aggregate level of NRIES, both industrially and spatially. A discussion of initial attempts to expand the spatial and industrial detail in NRIES and discussions of two other current extensions of NRIES comprise the remainder of this chapter.

Model Integration

For most analyses, it is desirable to employ as much detail or disaggregation as possible. By modeling a large number of industry variables, for example, it is possible to more effectively relate the technology and productivity of different industries and their effects on the economy. By modeling a large number of areas, it is possible to better define the particular region that will be affected by a policy and, thus, more closely relate the direct versus total regional impacts.

There is difficulty, however, in expanding the overall industrial or spatial detail of a model in that the size and costs of building the model can be prohibitive. At an extreme, a NRIES-type model with the 400 plus (4-digit SIC) industry sectors for output, employment, and compensation, and disaggregated to the 3,000 counties in the United States, would require about four million total equations. One alternative to expanding a single model is to integrate models of different spatial and industrial detail, each model adding a particular disaggregation feature to the analysis. This method would expand the model coverage and improve the analysis by adding more detailed information.

A pilot model of this type was constructed by BEA for the Department of Housing and Urban Development and was applied to analyze local public works (LPW) expenditures.1/ In this study, two BEA models were integrated: the NRIES model and the Regional Industrial Multiplier System (RIMS) model. RIMS is an input-output model used to estimate impacts for areas as small as counties and for any combination of the 478 industries in the national input-output table. It is capable of providing a substantial degree of both industrial and spatial detail, but has only limited interregional feedback capability and no explicit time dimension.

---

1. See Ballard, Cartwright, Gustely, and Kort (1980).

For the study, the RIMS model provided the detailed industry and local-area information about the direct impact of LPW expenditures. This local information was then aggregated and used by the NRIES model to detail interregional flows and impacts. Thus, the total flows starting in one county and one industry were traced through time and space to make estimates of impacts on all States and the Nation. Such a combination of existing regional models, especially input-output and econometric, presently involves many conceptual and practical limitations. However, it still remains a most promising area for future research.

Model Bridges

Currently, hundreds of different general purpose regional models exist in the United States, each focusing on somewhat overlapping phenomena. Usually these models cannot be integrated (as in the previous example), because they have imbedded differences in either their variable definitions or their exogenous assumptions. Since the models cannot be combined, an entirely new model must often be constructed to integrate the features of the old. In many cases, a practical alternative to constructing a new model is the development of an external link, or "bridge," so that the models can interact with one another. Where feasible, this technique can produce large savings in both research time and costs, by eliminating the need for new and often redundant analysis.

At BEA, work is currently being conducted under a DOE contract to provide an energy-economic-model bridge.2/ The focus of the study is on bridging two totally independent models: the Multiregional Energy Forecasting System (MEFS) model at DOE and the NRIES model at BEA.

For this work, the energy-economy bridge has two functions. The first is to put all model variables in the same format with respect to timing and measurement. For instance, in bridging the two models, 5-year-interval forecasts of energy production are converted into annual levels of industry output values as an input into NRIES. The second function of the bridge is to provide an integrating algorithm for the model simulations. In this case the bridging algorithm is iterative. After energy production is converted into data compatible with the NRIES model, the NRIES model's annual industrial output values, in turn, are converted, at 5-year intervals, into consumer-buying and industry-production levels as inputs into the MEFS model.

Normally, this type of bridge, or back-to-back, model system is solved iteratively; the sequence is run until the results converge. The results are not guaranteed to be unique, however, and there often can be additional methodological inconsistencies. Still, the advantages of this type of empirical technique--the ability to cheaply extract most needed information effectively from more than one model--should not be underestimated.

Top-Down Links to Industry or Area Submodels

Often there is a need for both general economic information and a detailed analysis of a particular industry or area. One effective method to implement both of these requirements is to link the general purpose model to a recursive submodel. This approach differs from the previous ones in that here the models are not fully integrated, nor are they necessarily general purpose in nature. Rather, a comprehensive model, such as NRIES, is used for forecasts of major aggregates, and these forecasts are then used to drive specific industry or area submodels. This is a top-down approach and is most commonly applied when national model forecasts drive regional, multiregional, or single-industry model systems.

A somewhat different use of this method, currently being applied by the Institute for Defense Analysis under contract to the Department of Labor, is the application of State and industry forecasts to implement a highly detailed construction labor demand system (CLDS).3/

---

2. See Ballard (1980).

3. See Thomas and Stekler (1979).

The "top" in this case is a set of State/industry variables forecast by the NRIES model. The particular NRIES variables chosen are those that influence construction output, demand, and productivity. The CLDS system, in turn, converts these NRIES forecasts into estimates of regional labor market conditions for 29 different construction crafts.

The advantage of the submodel approach lies in its cost-effective use of existing information. In the CLDS model, the NRIES general regional forecast is converted into a detailed regional industry forecast without the massive effort that would be required for a fully integrated application. Given the limited availability of resources for policy analysis, this would appear to be a practical alternative to full-scale model integration.

Bibliography

Adams, F. G., Brookings, C., and Glickman, N. J., "On the Specification and Simulation of a Regional Econometric Model: A Model of Mississippi," Review of Economics and Statistics, Vol. 57 (August 1975), pp. 286-298.

_____, and Glickman, N. J. (eds.), Modeling the Multiregion Economic System: Theory, Data, and Policy. Lexington, Massachusetts: Heath-Lexington Press (forthcoming Fall 1980).

Ballard, K. P., An Area-Interactive Econometric Forecasting Model. Ph.D. dissertation, University of Pennsylvania (1975).

_____, "The Economic and Demographic Impacts of Department of Energy Policy Scenarios," Springfield, Virginia: National Technical Information Service (forthcoming 1980).

_____, Cartwright, J. V., Gustely, R. D., and Kort, J. R., "Developing a Spatially Comprehensive Impact Modeling System: A Feasibility Study," Springfield, Virginia: National Technical Information Service (1980).

_____, and Glickman, N. J., "A Multiregional Econometric Forecasting System: A Model for the Delaware Valley," Journal of Regional Science, Vol. 17 (August 1977), pp. 161-177.

_____, _____, and Gustely, R. D., "A Bottom-Up Approach to Multiregional Modeling: NRIES," in Modeling the Multiregion Economic System: Theory, Data, and Policy, (eds.) Adams and Glickman (1980).

_____, _____, and Wendling, R. M., "Using a Multiregional Econometric Model to Measure the Spatial Impacts of Federal Policies," in The Urban Impacts of Federal Policies, (ed.) Glickman (1980).

_____, and Wendling, R. M., "The National-Regional Impact Evaluation System: A Spatial Model of U.S. Economic and Demographic Activity," Journal of Regional Science, Vol. 20 (May 1980), pp. 143-158.

Bolton, R., "Multiregional Models in Policy Analysis," in Modeling the Multiregion Economic System: Theory, Data, and Policy, (eds.) Adams and Glickman (1980).

Bretzfelder, R. B., "Sensitivity of State and Regional Income to National Business Cycles," Survey of Current Business, Vol. 53, No. 4 (April 1973), pp. 22-27.

Carrothers, G., "An Historical Review of the Gravity and Potential Concepts in Human Interaction," Journal of the American Institute of Planners, Vol. 22 (Spring 1966), pp. 94-101.

Cartwright, J. V., "Estimating the Spatial Distribution of Program Impacts within Metropolitan Areas," Paper presented at Southern Regional Science Association Meetings, Nashville (April 1979).

Chase Econometric Associates, Inc., "The Regional Service, State and SMSA Forecasts: Structure and Methodology," Bala Cynwyd, Pennsylvania: Chase Econometric Associates, Inc. (1979).

Clark, G. L., and Ballard, K. P., "Modeling Out-Migration from Depressed Regions: The

Significance of Origin and Destination Characteristics," Harvard University, Department of City and Regional Planning Discussion Paper D79-17 (September 1979).

Conway, R. S., Jr., "The Simulation Properties of a Regional Interindustry Econometric Model," Papers of the Regional Science Association, Vol. 43 (1979), pp. 45-57.

Courbis, R., "The Regina Model: A Regional-National Model for French Planning," Regional Science and Urban Economics, Vol. 9 (1979), pp. 117-139.

Crow, R. T., "A Nationally-Linked Regional Econometric Model," Journal of Regional Science, Vol. 13 (1973), pp. 187-204.

_____, "Output Determination and Investment Specification in Macroeconometric Models of Open Regions," Regional Science and Urban Economics, Vol. 9 (1979), pp. 141-158.

Drake, R. L., "A Short-Cut to Estimates of Regional Input-Output Multipliers: Methodology and Evaluation," International Regional Science Review, Vol. 1, No. 2 (Fall 1976), pp. 1-17.

Emerson, M. J., The Interindustry Structure of the Kansas Economy. Manhattan, Kansas: Kansas Department of Economic Development (January 1969).

Engle, R., "Issues in the Specification of Regional Econometric Models," Journal of Urban Economics, Vol. 1 (1974).

Faddeeva, U. N., Computational Methods of Linear Algebra. New York: Dover Publications (1959).

Fishkind, H., "Estimates of the MAPE Statistics for the Indiana and Florida State Econometric Models," unpublished, University of Florida (1979).

Friedenberg, H. L., "Regional Differences in Personal Income Growth 1929-77," Survey of Current Business, Vol. 58, No. 10 (October 1978), pp. 27-31.

_____, and Bretzfelder, R. B., "Sensitivity of Regional and State Nonfarm Wages and Salaries to National Business Cycles, 1948-79," Survey of Current Business, Vol. 60, No. 5 (May 1980), pp. 15-27.

Garnick, D. H., "Differential Regional Multiplier Models," Journal of Regional Science, Vol. 10 (February 1970), pp. 35-47.

Glickman, N. J., "An Econometric Model of the Philadelphia Region," Journal of Regional Science, Vol. 11 (February 1971), pp. 15-32.

_____, Econometric Analysis of a Regional System. New York: Academic Press (1977).

_____, (ed.) The Urban Impacts of Federal Policies. Baltimore: Johns Hopkins University Press (1980).

Golladay, F. L., and Haveman, R. H., The Economic Impacts of Tax-Transfer Policy: Regional and Distributional Effects. New York: Academic Press (1977).

Grimes, A. R., Jr., "A Satellite Econometric Model for Georgia," University of Georgia, Department of Economics (1973).

Gustely, R. D., Forecasting Regional Economic Activity: The Tennessee Econometric Model (TEMII). Knoxville: University of Tennessee (June 1978).

_____, and Ballard, K. P., "Federal Grants and Regional Growth: An Analysis of Policy Impacts," U.S. Department of Commerce, Bureau of Economic Analysis mimeo (November 1979).

_____, and _____, "The Regional Macroeconomic Impact of Federal Grants: An Empirical Analysis," Paper presented at the Conference on Municipal Fiscal Stress - Problems and Potentials, Miami (March 1979).

Hall, P. D., and Pleatsikes, C. J., "Direct Regional Energy/Economic Modeling (DREEM) Design," Urban Systems Research and Engineering, Inc. Final Report (October 1979).

Harris, C. C., Jr., The Urban Economies, 1985: A Multiregional Multi-industry Forecasting Model. Lexington, Massachusetts: D. C. Heath Company (1973).

Hollenbeck, K., "Linking Microeconomic Simulation Estimates of Household Final Demand to a Multiregional Model of the Economy," in Modeling the Multiregion Economic System: Theory, Data, and Policy, (eds.) Adams and Glickman (1980).

Isard, W., Methods of Regional Analysis: An Introduction to Regional Science. Cambridge, Massachusetts: The M.I.T. Press (1960).

_____, Langford, T. W., and Romanoff, E., "The Philadelphia Region Input-Output Study," Regional Science Research Institute (1967).

Klein, L. R., A Textbook of Econometrics, Evanston, Illinois: Row, Peterson & Company (1953).

_____, "The Specification of Regional Econometric Models," Papers of the Regional Science Association, Vol. 23 (1969), pp. 105-115.

_____, and Glickman, N. J., "An Econometric Model of Pennsylvania," University of Pennsylvania, Department of Economics Discussion Paper No. 295 (1974).

_____, and _____, "Econometric Model-Building at the Regional Level," Regional Science and Urban Economics, Vol. 7 (1977), pp. 3-23.

Kort, J. R., The Theory of Regional Economic Stability Differentials: Analysis, Reformulation, and Empirical Evidence. Ph.D. dissertation, University of Tennessee (1979).

Latham, W. R., Lewis, K. A., and Landon, J. H., "Regional Econometric Models: Specification and Simulation of a Quarterly Alternative for Small Regions," Journal of Regional Science, Vol. 19 (February 1979), pp.1-13.

L'Esperance, W. L., The Structure and Control of a State Economy. London: Pion Ltd. (1980).

Licari, J. A., Studenmund, A. H., and van Derenter, D., "An Impact Analysis of the Hawaiian Economy," mimeo (1973).

Liew, C. K., and Kahng, D. K., "Policy Simulations in the Oklahoma Econometric Model," Growth and Change, Vol. 3 (January 1972).

Miernyk, W. H., Simulating Regional Economic Development. Lexington: Massachusetts: D. C. Heath Company (1970).

_____, Bonner, E., Chapman, J. H., Jr., and Shellhammer, K., "The Impact of Space-Related Activities on a Local Community: Part I, The Input-Output Analysis," Report submitted to the National Aeronautics and Space Administration (July 1965).

Milne, W. J., Glickman, N. J., and Adams, F. G., "A Framework for Analyzing Regional Decline: A Multiregional Econometric Model of the United States," in Modeling the Multiregion System: Theory, Data and Policy, (eds.) Adams and Glickman (1980).

Olsen, R. J., et al, MULTIREGION: A Simulation-Forecasting Model of BEA Economic Area Population and Employment, (ORNL/RUS-25). Oak Ridge, Tennessee: Oak Ridge National Laboratory (October 1977).

Polenske, K. R., "Energy Analyses and the Determination of Multiregional Prices," Paper presented at the 25th North American Meetings of the Regional Science Association, Chicago (November 1978).

_____, The United States Multiregional Input-Output Model. Lexington, Massachusetts: D. C. Heath and Company (1980).

_____, and Rowen, R. E., "Multiregional Multipliers for Massachusetts and New England," DOT-EDA Report No. 17 (July 1977).

Putnam, S. H., An Empirical Model of Regional Growth, Monograph Series No. Six. Philadelphia: Regional Science Research Institute (1975).

Renfro, C. C., A Quarterly Econometric Model of the State of Kentucky, Ph.D. dissertation, University of Pennsylvania (1978).

Saltzman, S., and Chi, H.-S., "An Exploratory Monthly Integrated Regional/National Econometric Model," Regional Science and Urban Economics, Vol. 7 (1977), pp. 49-81.

Schaffer, W. A., On the Use of Input-Output Models for Regional Planning. Leiden, Netherlands: H. E. Stenfert Kroese B.V. (1976).

Schuler, G. E., and Thomas, R. W., "The Houston Area Regional Econometric Model," University of Houston, Department of Economics Working Paper (March 1978).

Schwartz, C. F., and Graham, R. E., Jr.,"Personal Income by States Since 1929," A supplement to the Survey of Current Business. Washington: U.S. Government Printing Office (1956).

Stevens, B. H. and Trainer, G. A., "The Generation of Error in Regional Input-Output Impact Models," Regional Science Research Institute Working Paper WPA1-76 (1976).

Stewart, J. Q. "Empirical Mathematical Rules Concerning the Distribution and Equilibrium of Population," Geographical Review, 37 (1947), 461-485.

Texas Department of Water Resources, Planning and Development Division, The Texas Input-Output Model, 1972. Texas Department of Water Resources (February 1978).

Thomas, R. W., and Stekler, H. O., "A Model of Construction Activity in Subnational Areas," IDA Paper P-1446 (November 1979).

Tiebout, C. M., "An Empirical Regional Input-Output Projection Model: The State of Washington, 1980," Review of Economics and Statistics, Vol. 51 (November 1969), pp. 334-340.

Treyz, G. I., Freidlaender, A. F., and Stevens, B. H., "The Employment Sector of a Regional Policy Simulation Model," Regional Science Research Institute Paper No. 107 (November 1978).

_____, _____, McNertney, E.M., Stevens, B.H., and Williams, R.E., "The Massachusetts Economic Policy Analysis Model," University of Massachusetts (1977).

U.S. Department of Commerce, Bureau of Economic Analysis, State Quarterly Economic Developments: Montana. Washington, D. C.: U.S. Government Printing Office (1979).

U.S. Department of Energy, Energy Information Administration, Annual Report to Congress 1977. Washington, D. C.: U.S. Government Printing Office (1978).

U.S. Water Resources Council, Guideline 5: Regional Multipliers (Industry-Specific Gross Output Multipliers for BEA Economic Areas prepared by the Bureau of Economic Analysis, U.S. Department of Commerce). Washington, D. C.: U.S. Government Printing Office (1977).

Urban Systems Research and Engineering, Inc., "Inputs to NRIES for Montana Coal Development Scenarios," Report submitted to the Energy Information Administration of the U.S. Department of Energy (January 1979).

Wendling, R. M., and Ballard, K. P., "Projecting the Regional, Multiregional, and National Economic Impacts of Energy Development," Growth and Change, (forthcoming October 1980).

Ziph, G. K., "The P_1P_2/D Hypothesis on the Intercity Movement of Persons," American Sociological Review, 11 (1946), pp. 3-8.

Appendix A

NRIES VARIABLES AND MODEL IDENTITIES

This appendix comprises four separate lists: the 264 State-level variables, the 181 State identities, the 98 national-level variables, and the 39 national identities.

The two variable lists contain seven columns. From left to right they are: the assigned variable number used in the model; the variable label as referred to in chapter 5 and appendixes B and C; the description of the variable; the units of the variable as used in the model; the type of variable (behavioral, identity, or exogenous); the appendix C equation number, if the variable is estimated stochastically (regional only); and, finally, the appendix B data-source number. The NRIES model contains 18 variables that are multiregional, but at the State level. These are included in the State variable list and are classified as interactional (ten variables) and regional or market area (8 variables) under the variable type column. Their derivation and use are described in chapter 4 in the section entitled Interregional Linkages in the Model.

The two identity lists contain three columns: the identity number; the transformation equation, used to derive the identity; and the units of the identity variable, as used in the model. The reader should note that the NRIES model simulation identities referred to in this appendix are sometimes different from the data identities referred to in appendix B.

In all four lists, variables are arranged in a close-to-alphabetical ordering, by variable label. The first letter of the variable label connotes one of the following major variable groups:

First letter	Variable group
C	Employee earnings
E	Employment
G	Government
I	Interaction variables
LF	Labor force
M	Employee productivity
MV	Motor vehicles
P	Population
Q	Output (current $)
RS	Retail sales
T	Taxes
U	Unemployment
W	Wage rates
X	Output (constant $)
Y	Income sources

S T A T E V A R I A B L E S

VAR	LABEL	DESCRIPTION	UNITS	TYPE	REFER	DATA
1	B	BIRTHS, LIVE	THOUSANDS	BEHAVIORAL	1	1
2	BT1	BIRTHS, POTENTIAL WITH 'NORMAL' UNITED STATES RATE	THOUSANDS	IDENTITY		
3	C*	EARNINGS, TOTAL	MIL. 72 $$	IDENTITY		
4	CAFF	EARNINGS, AGRICULTURE, FORESTRY, FISHERY, & OTHER	MILLIONS $	IDENTITY		5
5	CMIN	EARNINGS, MINING	MILLIONS $	IDENTITY		5
6	CCC	EARNINGS, CONTRACT CONSTRUCTION	MILLIONS $	IDENTITY		5
7	CM	EARNINGS, MANUFACTURING, TOTAL	MILLIONS $	IDENTITY		5
8	CTCU	EARNINGS, TRANSPORTATION, COMMUNICATION & UTILITIES	MILLIONS $	IDENTITY		5
9	CWRT	EARNINGS, WHOLESALE & RETAIL TRADE	MILLIONS $	IDENTITY		5
10	CFIR	EARNINGS, FINANCE, INSURANCE & REAL ESTATE	MILLIONS $	IDENTITY		5
11	CSER	EARNINGS, SERVICES	MILLIONS $	IDENTITY		5
12	CG	EARNINGS, GOVERNMENT, TOTAL	MILLIONS $	IDENTITY		5
13	CGFC	EARNINGS, GOVERNMENT, FEDERAL CIVILIAN	MILLIONS $	IDENTITY		5
14	CGAF	EARNINGS, GOVERNMENT, ARMED FORCES	MILLIONS $	IDENTITY		5
15	CGLS	EARNINGS, GOVERNMENT, STATE & LOCAL	MILLIONS $	IDENTITY		5
16	D	DEATHS	THOUSANDS	BEHAVIORAL	2	1
17	DT1	DEATHS, POTENTIAL WITH 'NORMAL' UNITED STATES RATE	THOUSANDS	IDENTITY		
18	DPI	DISPOSABLE PERSONAL INCOME	MILLIONS $	IDENTITY		5
19	DPI*	DISPOSABLE PERSONAL INCOME	MIL. 72 $$	IDENTITY		
20	DIRN	DISPOSABLE PERSONAL INCOME, RATIO OF STATE TO NATION	PERCENT	IDENTITY		
21	DIR	DISPOSABLE PERSONAL INCOME IN REGION (EXCLUDES STATE)	100 MIL. $$	REGIONAL		
22	DI*R	DISPOSABLE PERSONAL INCOME IN REGION (EXCLUDES STATE)	100 ML. 72 $	REGIONAL		
23	DRI	DISPOSABLE PERSONAL INCOME IN REGION & STATE	100 MIL. $$	REGIONAL		
24	DRI*	DISPOSABLE PERSONAL INCOME IN REGION & STATE	100 ML. 72 $	REGIONAL		
25	DIER	DISPOSABLE PERSONAL INCOME, EMPLOYMENT RATIO	NORM=100.000	REGIONAL		
26	E*	EMPLOYMENT, TOTAL	THOUSANDS	IDENTITY		
27	E	EMPLOYMENT, TOTAL RESIDENT CIVILIAN	THOUSANDS	IDENTITY		4
28	ERN	EMPLOYMENT, TOTAL, RATIO OF STATE TO NATION	PERCENT	IDENTITY		
29	EAFF	EMPLOYMENT, AGRICULTURE, FORESTRY, FISHERIES & OTHER	THOUSANDS	BEHAVIORAL	3	3
30	EMIN	EMPLOYMENT, MINING	THOUSANDS	BEHAVIORAL	4	3
31	ECC	EMPLOYMENT, CONTRACT CONSTRUCTION	THOUSANDS	BEHAVIORAL	5	3
32	ECCP	EMPLOYMENT, CONTRACT CONSTRUCTION (PERCENT CHANGE)	PERCENT	IDENTITY		
33	EM	EMPLOYMENT, MANUFACTURING, TOTAL	THOUSANDS	IDENTITY		3
34	EMDR	EMPLOYMENT, MANUFACTURING, DURABLE GOODS	THOUSANDS	BEHAVIORAL	6	3
35	EMND	EMPLOYMENT, MANUFACTURING, NONDURABLE GOODS	THOUSANDS	BEHAVIORAL	7	3
36	ETCU	EMPLOYMENT, TRANSPORTATION, COMMUNICATION, & UTILITIES	THOUSANDS	BEHAVIORAL	8	3
37	EWRT	EMPLOYMENT, WHOLESALE & RETAIL TRADE	THOUSANDS	BEHAVIORAL	9	3
38	EFIR	EMPLOYMENT, FINANCE, INSURANCE & REAL ESTATE	THOUSANDS	BEHAVIORAL	10	3
39	ESER	EMPLOYMENT, SERVICES	THOUSANDS	BEHAVIORAL	11	3
40	EG	EMPLOYMENT, GOVERNMENT, TOTAL	THOUSANDS	IDENTITY		3
41	EGFC	EMPLOYMENT, GOVERNMENT, FEDERAL CIVILIAN	THOUSANDS	BEHAVIORAL	12	3
42	EGAF	EMPLOYMENT, GOVERNMENT, FEDERAL MILITARY	THOUSANDS	BEHAVIORAL	13	3
43	EGLS	EMPLOYMENT, GOVERNMENT, STATE & LOCAL	THOUSANDS	BEHAVIORAL	14	3
44	ERPA	EMPLOYMENT, RESIDENCE & PROPRIETOR'S ADJUSTMENT	THOUSANDS	EXOGENOUS		
45	ET1	EMPLOYMENT IN ADJACENT STATES	THOUSANDS	REGIONAL		
46	ET2	EMPLOYMENT, SOCIAL INSURANCE POTENTIAL PAYMENTS INDEX	MILLIONS $	IDENTITY		
47	ET3	EMPLOYMENT, GROWTH RELATIVE TO NATION	THOUSANDS	IDENTITY		
48	ET3M	EMPLOYMENT, GROWTH RELATIVE TO NATION (2-YEAR MOV AVER)	THOUSANDS	IDENTITY		
49	ET4	EMPLOYMENT, POPULATION RATIO	NORM = 100	REGIONAL		
50	GSR	STATE GOVERNMENT, GENERAL REVENUE, TOTAL	MILLIONS $	IDENTITY		9

STATE VARIABLES

VAR	LABEL	DESCRIPTION	UNITS	TYPE	REFER	DATA
51	GSRF	STATE GOVERNMENT, GENERAL REVENUE, TOTAL (FIRST DIFFER)	MILLIONS $	IDENTITY		
52	GSFR	STATE GOVERNMENT, INTERGOVERNMENTAL REVENUE, FEDERAL	MILLIONS $	BEHAVIORAL	15	9
53	GSCR	STATE GOVERNMENT, INTERGOVERNMENTAL REVENUE, FROM LOCAL	MILLIONS $	BEHAVIORAL	16	9
54	GSOR	STATE GOVERNMENT, GENERAL REVENUE, OWN SOURCES	MILLIONS $	IDENTITY		9
55	GSTR	STATE GOVERNMENT, GENERAL REVENUE, TAXES	MILLIONS $	BEHAVIORAL	17	9
56	GSTF	STATE GOVERNMENT, GENERAL REVENUE, TAXES (FIRST DIFFER)	MILLIONS $	IDENTITY		
57	GSMR	STATE GOVERNMENT, GENERAL REVENUE, CHARGES & MISC.	MILLIONS $	BEHAVIORAL	18	9
58	GSE	STATE GOVERNMENT, EXPENDITURES, TOTAL	MILLIONS $	BEHAVIORAL	19	9
59	GSDE	STATE GOVERNMENT, EXPENDITURES, DIRECT GENERAL	MILLIONS $	IDENTITY		9
60	GSXE	STATE GOVERNMENT, EXPENDITURES, TO LOCAL GOVERNMENTS	MILLIONS $	BEHAVIORAL	20	9
61	GLR	LOCAL GOVERNMENT, GENERAL REVENUE, TOTAL	MILLIONS $	IDENTITY		9
62	GLFR	LOCAL GOVERNMENT, INTERGOVERNMENTAL REVENUE, FEDERAL	MILLIONS $	BEHAVIORAL	21	9
63	GLOR	LOCAL GOVERNMENT, GENERAL REVENUE, OWN SOURCES	MILLIONS $	IDENTITY		9
64	GLTR	LOCAL GOVERNMENT, GENERAL REVENUE, TAXES	MILLIONS $	BEHAVIORAL	22	9
65	GLTF	LOCAL GOVERNMENT, GENERAL REVENUE, TAXES (FIRST DIFFER)	MILLIONS $	IDENTITY		
66	GLMR	LOCAL GOVERNMENT, GENERAL REVENUE, CHARGES & MISC.	MILLIONS $	BEHAVIORAL	23	9
67	GLE	LOCAL GOVERNMENT, EXPENDITURES, TOTAL	MILLIONS $	BEHAVIORAL	24	9
68	GLEF	LOCAL GOVERNMENT, EXPENDITURES, TOT. (FIRST DIFFERENCE)	MILLIONS $	IDENTITY		
69	GLDE	LOCAL GOVERNMENT, EXPENDITURES, DIRECT GENERAL	MILLIONS $	IDENTITY		9
70	GR	STATE & LOCAL GOVERNMENT, GENERAL REVENUE, TOTAL	MILLIONS $	IDENTITY		9
71	GRF	STATE & LOCAL GOVERNMENT, INTERGOV'TAL REVENUE, FEDERAL	MILLIONS $	IDENTITY		9
72	GRO	STATE & LOCAL GOVERNMENT, GENERAL REVENUE, OWN SOURCES	MILLIONS $	IDENTITY		9
73	GRT	STATE & LOCAL GOVERNMENT, GENERAL REVENUE, TAXES	MILLIONS $	IDENTITY		9
74	GED	STATE & LOCAL GOVERNMENT, EXPENDITURES, DIRECT GENERAL	MILLIONS $	IDENTITY		9
75	GE*	STATE & LOCAL GOVERNMENT, EXPENDITURES, DIRECT GENERAL	MIL. 72 $$	IDENTITY		
76	GT1	STATE & LOCAL GOVERNMENT, TAX BASE TRANSFORMATION	MILLIONS $	IDENTITY		
77	GT1M	STATE & LOCAL GOVERNMENT, TAX BASE TRANS. (2-YR MOV AV)	MILLIONS $	IDENTITY		
78	GT3	STATE GOVERNMENT, FED. INTERGOV'TAL REVENUE POTENTIAL A	MILLIONS $	IDENTITY		
79	GT4	STATE GOVERNMENT, FED. INTERGOV'TAL REVENUE POTENTIAL B	MILLIONS $	IDENTITY		
80	GT5	LOCAL GOVERNMENT, FED. INTERGOV'TAL REVENUE POTENTIAL A	MILLIONS $	IDENTITY		
81	GT6	LOCAL GOVERNMENT, FED. INTERGOV'TAL REVENUE POTENTIAL B	MILLIONS $	IDENTITY		
82	ICD*	INTERACTION, FINAL DEMAND EXPENDITURES, DURABLE GOODS	MIL. 72 $$	INTERACTION		
83	IDPI	INTERACTION, DISPOSABLE PERSONAL INCOME	MILLIONS $	INTERACTION		
84	IDI*	INTERACTION, DISPOSABLE PERSONAL INCOME	MIL. 72 $$	INTERACTION		
85	IMTU	INTERACTION, PRODUCTIVITY, TRANS., COMMUN. & UTILITIES	THOUS. 72 $$	INTERACTION		
86	IP	INTERACTION, POPULATION	THOUSANDS	INTERACTION		
87	IRS*	INTERACTION, RETAIL SALES, TOTAL	MIL. 72 $$	INTERACTION		
88	IX	INTERACTION, OUTPUT, TOTAL	MIL. 72 $$	INTERACTION		
89	IXTC	INTERACTION, OUTPUT, TRANSPORTATION, COMM & UTILITIES	MIL. 72 $$	INTERACTION		
90	IY	INTERACTION, PERSONAL INCOME, TOTAL	MILLIONS $	INTERACTION		
91	IY*	INTERACTION, PERSONAL INCOME, TOTAL	MIL. 72 $$	INTERACTION		
92	LF	CIVILIAN LABOR FORCE	THOUSANDS	IDENTITY		
93	LFP1	LABOR FORCE PARTICIPATION RATE, TOTAL POPULATION BASE	PERCENT	IDENTITY		
94	LFP2	LABOR FORCE PARTICIPATION RATE, 18 - 64 POPULATION BASE	PERCENT	IDENTITY		
95	M	EMPLOYEE PRODUCTIVITY, TOTAL	THOUS. 72 $$	IDENTITY		
96	MAFF	EMPLOYEE PRODUCTIVITY, AGRICULTURE, FOREST. & FISHERIES	THOUS. 72 $$	IDENTITY		
97	MMIN	EMPLOYEE PRODUCTIVITY, MINING	THOUS. 72 $$	IDENTITY		
98	MCC	EMPLOYEE PRODUCTIVITY, CONTRACT CONSTRUCTION	THOUS. 72 $$	IDENTITY		
99	MCCM	EMPLOYEE PRODUCTIVITY, CONTRACT CONSTR. (2-YR MOV AVER)	THOUS. 72 $$	IDENTITY		
100	MM	EMPLOYEE PRODUCTIVITY, MANUFACTURING, TOTAL	THOUS. 72 $$	IDENTITY		

STATE VARIABLES

VAR	LABEL	DESCRIPTION	UNITS	TYPE	REFER	DATA
101	MMDR	EMPLOYEE PRODUCTIVITY, MANUFACTURING, DURABLE GOODS	THOUS. 72 $$	IDENTITY		
102	MMND	EMPLOYEE PRODUCTIVITY, MANUFACTURING, NONDURABLE GOODS	THOUS. 72 $$	IDENTITY		
103	MTCU	EMPLOYEE PRODUCTIVITY, TRANSPORTATION, COMM & UTILITIES	THOUS. 72 $$	IDENTITY		
104	MTCM	EMPLOYEE PRODUCTIVITY, TRAN., COM. & UTIL. (2-YR MV AV)	THOUS. 72 $$	IDENTITY		
105	MWRT	EMPLOYEE PRODUCTIVITY, WHOLESALE & RETAIL TRADE	THOUS. 72 $$	IDENTITY		
106	MWRM	EMPLOYEE PRODUCTIVITY, WHL. & RETL TRADE (2-YR. MOV AV)	THOUS. 72 $$	IDENTITY		
107	MFIR	EMPLOYEE PRODUCTIVITY, FINANCE, INSUR. & REAL ESTATE	THOUS. 72 $$	IDENTITY		
108	MFRM	EMPLOYEE PRODUCTIVITY, FIN. INS & R. EST. (2-YR MV AV)	THOUS. 72 $$	IDENTITY		
109	MSER	EMPLOYEE PRODUCTIVITY, SERVICES	THOUS. 72 $$	IDENTITY		
110	MSRM	EMPLOYEE PRODUCTIVITY, SERVICES (2-YEAR MOVING AVERAGE)	THOUS. 72 $$	IDENTITY		
111	MG	EMPLOYEE PRODUCTIVITY, GOVERNMENT, TOTAL	THOUS. 72 $$	IDENTITY		
112	MGFC	EMPLOYEE PRODUCTIVITY, GOVERNMENT, FEDERAL CIVILIAN	THOUS. 72 $$	IDENTITY		
113	MGLS	EMPLOYEE PRODUCTIVITY, GOVERNMENT, STATE & LOCAL	THOUS. 72 $$	IDENTITY		
114	MVR	MOTOR VEHICLE, REGISTRATIONS	THOUSANDS	BEHAVIORAL	25	7
115	MVLD	MOTOR VEHICLE, DRIVERS' LICENSES	THOUSANDS	BEHAVIORAL	26	7
116	MVLM	MOTOR VEHICLE, DRIVERS' LICENSES (2-YEAR MOVING AVER)	THOUSANDS	IDENTITY		
117	MVT1	MOTOR VEHICLE, AUTO COST INDEXED NUMBER OF DRIVERS	INDEX	IDENTITY		
118	MVT2	MOTOR VEHICLE, GAS COST INDEXED NUMBER OF REGISTRATIONS	INDEX	IDENTITY		
119	MVT3	MOTOR VEHICLES, FIRST DIFFERENCE OF MVLM	THOUSANDS	IDENTITY		
120	P	POPULATION , ALL RESIDENTS	THOUSANDS	IDENTITY		2
121	PM	POPULATION , TOTAL (2-YEAR MOVING AVERAGE)	THOUSANDS	IDENTITY		
122	PRN	POPULATION , RATIO OF STATE TO NATION	PERCENT	IDENTITY		
123	PUN5	POPULATION , AGE GROUP : UNDER 5	THOUSANDS	BEHAVIORAL	27	2
124	P517	POPULATION , AGE GROUP : 5 TO 17	THOUSANDS	BEHAVIORAL	28	2
125	P184	POPULATION , AGE GROUP : 18 TO 44	THOUSANDS	BEHAVIORAL	29	2
126	P454	POPULATION , AGE GROUP : 45 TO 64	THOUSANDS	BEHAVIORAL	30	2
127	P65+	POPULATION , AGE GROUP : 65 & OVER	THOUSANDS	BEHAVIORAL	31	2
128	PMN	POPULATION , NET MIGRATION	THOUSANDS	IDENTITY		
129	PT1	POPULATION , ALL ADULTS OVER AGE 17	THOUSANDS	IDENTITY		2
130	PT1M	POPULATION , ADULTS OVER AGE 17 (2-YEAR MOVING AVERAGE)	THOUSANDS	IDENTITY		
131	P1MF	POPULATION , ADULTS (FIRST DIFFERENCE OF 2-YEAR MOV AV)	THOUSANDS	IDENTITY		
132	PT2	POPULATION , WORKING AGE IN ADJACENT STATES	THOUSANDS	REGIONAL		
133	PT4	POPULATION , SOCIAL INSURANCE RECEIPENT POTENTIAL	THOUSANDS	IDENTITY		
134	PT5	POPULATION , WORKING AGES : 18 TO 64	THOUSANDS	IDENTITY		2
135	PT5P	POPULATION , PERCENT CHANGE IN ALL ADULTS OVER AGE 17	PERCENT	IDENTITY		
136	PT6	POPULATION , INDEX FOR TOTAL COST OF LIVING	INDEX	IDENTITY		
137	PT7	POPULATION , SOCIAL INSURANCE POTENTIAL BENEFIT INDEX A	INDEX	IDENTITY		
138	PT8	POPULATION , INDEX FOR COST OF FOOD AT HOME	INDEX	IDENTITY		
139	PT9	POPULATION , INDEX FOR COST OF FOOD AWAY FROM HOME	INDEX	IDENTITY		
140	PT0	POPULATION , SOCIAL INSURANCE POTENTIAL BENEFIT INDEX B	INDEX	IDENTITY		
141	Q	OUTPUT, TOTAL	MILLIONS $	IDENTITY		6
142	QRN	OUTPUT, RATIO OF STATE TO NATION	PERCENT	IDENTITY		
143	QAFF	OUTPUT, AGRICULTURE, FORESTRY, FISHERIES & OTHER	MILLIONS $	IDENTITY		6
144	QMIN	OUTPUT, MINING	MILLIONS $	IDENTITY		6
145	QCC	OUTPUT, CONTRACT CONSTRUCTION	MILLIONS $	IDENTITY		6
146	QCCP	OUTPUT, CONTRACT CONSTRUCTION (PERCENT CHANGE)	PERCENT	IDENTITY		
147	QM	OUTPUT, MANUFACTURING, TOTAL	MILLIONS $	IDENTITY		6
148	QMDR	OUTPUT, MANUFACTURING, DURABLE GOODS	MILLIONS $	IDENTITY		6
149	QMND	OUTPUT, MANUFACTURING, NONDURABLE GOODS	MILLIONS $	IDENTITY		6
150	QTCU	OUTPUT, TRANSPORTATION, COMMUNICATION & UTILITIES	MILLIONS $	IDENTITY		6

S T A T E V A R I A B L E S

VAR	LABEL	DESCRIPTION	UNITS	TYPE	REFER	DATA
151	QWRT	OUTPUT, WHOLESALE & RETAIL TRADE	MILLIONS $	IDENTITY		6
152	QFIR	OUTPUT, FINANCE, INSURANCE & REAL ESTATE	MILLIONS $	IDENTITY		6
153	QSER	OUTPUT, SERVICES	MILLIONS $	IDENTITY		6
154	QG	OUTPUT, GOVERNMENT, TOTAL	MILLIONS $	IDENTITY		6
155	QGFC	OUTPUT, GOVERNMENT, FEDERAL CIVILIAN	MILLIONS $	IDENTITY		6
156	QGAF	OUTPUT, GOVERNMENT, ARMED FORCES	MILLIONS $	IDENTITY		6
157	QGLS	OUTPUT, GOVERNMENT, STATE & LOCAL	MILLIONS $	IDENTITY		6
158	QT1	OUTPUT, INVESTMENT RATE OF RETURN INDEX	INDEX	IDENTITY		
159	RS	RETAIL SALES, TOTAL	MILLIONS $	IDENTITY		8
160	RSM	RETAIL SALES, TOTAL (2-YEAR MOVING AVERAGE)	MILLIONS $	IDENTITY		
161	RSF	RETAIL SALES, FOOD STORES	MILLIONS $	BEHAVIORAL	32	8
162	RSED	RETAIL SALES, EATING AND DRINKING PLACES	MILLIONS $	BEHAVIORAL	33	8
163	RSA	RETAIL SALES, AUTOMOBILE DEALERS	MILLIONS $	BEHAVIORAL	34	8
164	RSGS	RETAIL SALES, GASOLINE STATIONS	MILLIONS $	BEHAVIORAL	35	8
165	RSO	RETAIL SALES, ALL OTHER ESTABLISHMENTS	MILLIONS $	BEHAVIORAL	36	8
166	RS*	RETAIL SALES, TOTAL	MIL. 72 $$	IDENTITY		
167	RSF*	RETAIL SALES, FOOD STORES	MIL. 72 $$	IDENTITY		
168	RSE*	RETAIL SALES, EATING AND DRINKING PLACES	MIL. 72 $$	IDENTITY		
169	RSA*	RETAIL SALES, AUTOMOBILE DEALERS	MIL. 72 $$	IDENTITY		
170	RSG*	RETAIL SALES, GASOLINE STATIONS	MIL. 72 $$	IDENTITY		
171	RSO*	RETAIL SALES, ALL OTHER ESTABLISHMENTS	MIL. 72 $$	IDENTITY		
172	T	TAXES, PERSONAL TAX & NONTAX PAYMENTS : ALL GOVERNMENTS	MILLIONS $	IDENTITY		10
173	TF	TAXES, PERSONAL TAX & NONTAX PAYMENTS : FEDERAL GOV'T	MILLIONS $	IDENTITY		10
174	TFI	TAXES, PERSONAL TAX & NONTAX PAYMENTS : FEDERAL INCOME	MILLIONS $	BEHAVIORAL	37	10
175	TFO	TAXES, PERSONAL TAX & NONTAX PAYMENTS : FEDERAL OTHER	MILLIONS $	BEHAVIORAL	38	10
176	TS	TAXES, PERSONAL TAX & NONTAX PAYMENTS : STATE GOV'T	MILLIONS $	IDENTITY		10
177	TSI	TAXES, PERSONAL TAX & NONTAX PAYMENTS : STATE INCOME	MILLIONS $	BEHAVIORAL	39	10
178	TSO	TAXES, PERSONAL TAX & NONTAX PAYMENTS : STATE OTHER	MILLIONS $	BEHAVIORAL	40	10
179	TLN	TAXES, PERSONAL TAX & NONTAX PAYMENTS : LOCAL & OTHER	MILLIONS $	BEHAVIORAL	41	10
180	UR	UNEMPLOYMENT RATE, TOTAL	PERCENT	BEHAVIORAL	42	4
181	UIR	UNEMPLOYMENT RATE, INSURED	PERCENT	BEHAVIORAL	43	
182	U	UNEMPLOYMENT, TOTAL	THOUSANDS	IDENTITY		4
183	UI	UNEMPLOYMENT, INSURED	THOUSANDS	IDENTITY		4
184	UT1	UNEMPLOYMENT, TOTAL, IN EXCESS OF 5 PERCENT RATE	THOUSANDS	IDENTITY		
185	UX1	UNEMPLOYMENT, TOTAL, IN EXCESS OF 5 PERCENT RATE	100 THOUSAND	IDENTITY		
186	UT2	UNEMPLOYMENT, TOTAL, ANNUAL CHANGE IN RATE	PERCENT *100	IDENTITY		
187	UX2	UNEMPLOYMENT, TOTAL, ANNUAL CHANGE IN RATE	PERCENT	IDENTITY		
188	UT3	UNEMPLOYMENT, TOTAL, LOCAL RELATIVE TO NATIONAL RATES	NORM = 100	IDENTITY		
189	UX3	UNEMPLOYMENT, TOTAL, LOCAL RELATIVE TO NATIONAL RATES	NORM = 1.0	IDENTITY		
190	W	WAGE RATE, ALL INDUSTRY AVERAGE	THOUSANDS $	IDENTITY		
191	WRN	WAGE RATE, RATIO OF STATE TO NATION	PERCENT	IDENTITY		
192	WAFF	WAGE RATE, AGRICULTURE, FORESTRY, FISHERIES & OTHER	THOUSANDS $	EXOGENOUS		
193	WAFR	WAGE RATE, INDUSTRY-STATE RELATIVE, AGRICULTURE	NORM = 100	IDENTITY		
194	WMIN	WAGE RATE, MINING	THOUSANDS $	BEHAVIORAL	44	
195	WMIA	WAGE RATE, NATION-STATE DIFFERENCE, MINING	THOUSANDS $	IDENTITY		
196	WCC	WAGE RATE, CONTRACT CONSTRUCTION	THOUSANDS $	BEHAVIORAL	45	
197	WCCA	WAGE RATE, NATION-STATE DIFFERENCE, CONTRACT CONSTRUCT.	THOUSANDS $	IDENTITY		
198	WCCR	WAGE RATE, INDUSTRY-STATE RELATIVE, CONTRACT CONSTRUCT.	NORM = 100	IDENTITY		
199	WM	WAGE RATE, MANUFACTURING, TOTAL	THOUSANDS $	BEHAVIORAL	46	
200	WMA	WAGE RATE, NATION-STATE DIFFERENCE, MANUFACTURING	THOUSANDS $	IDENTITY		

STATE VARIABLES

VAR	LABEL	DESCRIPTION	UNITS	TYPE	REFER	DATA
201	WMR	WAGE RATE, INDUSTRY-STATE RELATIVE, MANUFACTURING	NORM = 100	IDENTITY		
202	WMRA	WAGE RATE, NATION-STATE RELATIVE, MANUFACTURING	NORM = 100	IDENTITY		
203	WTCU	WAGE RATE, TRANSPORTATION, COMMUNICATIONS & UTILITIES	THOUSANDS	BEHAVIORAL	47	
204	WTCA	WAGE RATE, NATION-STATE DIFFERENCE, TRANS, COMM & UTIL	THOUSANDS $	IDENTITY		
205	WTCR	WAGE RATE, INDUSTRY-STATE RELATIVE, TRANS, COMM & UTIL	NORM = 100	IDENTITY		
206	WWRT	WAGE RATE, WHOLESALE & RETAIL TRADE	THOUSANDS $	BEHAVIORAL	48	
207	WWRR	WAGE RATE, INDUSTRY-STATE RELATIVE, TRADE	NORM = 100	IDENTITY		
208	WFIR	WAGE RATE, FINANCE, INSURANCE & REAL ESTATE	THOUSANDS $	BEHAVIORAL	49	
209	WFRA	WAGE RATE, NATION-STATE DIFFERENCE, FIN, INSUR & RL EST	THOUSANDS $	IDENTITY		
210	WFRR	WAGE RATE, INDUSTRY-STATE RELATIVE, FIN, INSUR & RL EST	NORM = 100	IDENTITY		
211	WSER	WAGE RATE, SERVICES	THOUSANDS $	BEHAVIORAL	50	
212	WSRR	WAGE RATE, INDUSTRY-STATE RELATIVE, SERVICES	NORM = 100	IDENTITY		
213	WG	WAGE RATE, GOVERNMENT, TOTAL	THOUSANDS $	IDENTITY		
214	WGFC	WAGE RATE, GOVERNMENT, FEDERAL CIVILIAN	THOUSANDS $	BEHAVIORAL	51	
215	WGAF	WAGE RATE, GOVERNMENT, ARMED FORCES	THOUSANDS $	EXOGENOUS		
216	WGLS	WAGE RATE, GOVERNMENT, STATE & LOCAL	THOUSANDS $	BEHAVIORAL	52	
217	X	OUTPUT, TOTAL	MIL. 72 $$	IDENTITY		
218	XF	OUTPUT, TOTAL (FIRST DIFFERENCE)	MIL. 72 $$	IDENTITY		
219	XRN	OUTPUT, RATIO OF STATE TO NATION	PERCENT	IDENTITY		
220	XAFF	OUTPUT, AGRICULTURE, FORESTRY, FISHERIES & OTHER	MIL. 72 $$	BEHAVIORAL	53	
221	XMIN	OUTPUT, MINING	MIL. 72 $$	BEHAVIORAL	54	
222	XCC	OUTPUT, CONTRACT CONSTRUCTION	MIL. 72 $$	BEHAVIORAL	55	
223	XCCM	OUTPUT, CONTRACT CONSTRUCTION (2-YEAR MOVING AVERAGE)	MIL. 72 $$	IDENTITY		
224	XCMP	OUTPUT, CONTRACT CONSTRUCTION (PERCENT CHANGE OF XCCM)	PERCENT	IDENTITY		
225	XM	OUTPUT, MANUFACTURING, TOTAL	MIL. 72 $$	IDENTITY		
226	XMDR	OUTPUT, MANUFACTURING, DURABLE GOODS	MIL. 72 $$	BEHAVIORAL	56	
227	XMND	OUTPUT, MANUFACTURING, NONDURABLE GOODS	MIL. 72 $$	BEHAVIORAL	57	
228	XTCU	OUTPUT, TRANSPORTATION, COMMUNICATIONS & UTILITIES	MIL. 72 $$	BEHAVIORAL	58	
229	XWRT	OUTPUT, WHOLESALE & RETAIL TRADE	MIL. 72 $$	BEHAVIORAL	59	
230	XFIR	OUTPUT, FINANCE, INSURANCE & REAL ESTATE	MIL. 72 $$	BEHAVIORAL	60	
231	XSER	OUTPUT, SERVICES	MIL. 72 $$	BEHAVIORAL	61	
232	XG	OUTPUT, GOVERNMENT, TOTAL	MIL. 72 $$	IDENTITY		
233	XGFC	OUTPUT, GOVERNMENT, FEDERAL CIVILIAN	MIL. 72 $$	BEHAVIORAL	62	
234	XGCM	OUTPUT, GOVERNMENT, FEDERAL CIVILIAN (2-YR MOVING AVER)	MIL. 72 $$	IDENTITY		
235	XGAF	OUTPUT, GOVERNMENT, ARMED FORCES	MIL. 72 $$	BEHAVIORAL	63	
236	XGLS	OUTPUT, GOVERNMENT, STATE & LOCAL	MIL. 72 $$	BEHAVIORAL	64	
237	XT1	OUTPUT, POTENTIAL DURABLE CONSUMPTION EXPENDITURES	MIL. 72 $$	IDENTITY		
238	XT2	OUTPUT, TOTAL (PERCENT CHANGE MINUS 3)	PERCENT	IDENTITY		
239	XT3	OUTPUT, MINING AND MANUFACTURING	MIL. 72 $$	IDENTITY		
240	XT4	OUTPUT, AGRICULTURE, MINING AND MANUFACTURING	MIL. 72 $$	IDENTITY		
241	XT5	OUTPUT, TOTAL NET OF CONTRACT CONSTRUCTION	MIL. 72 $$	IDENTITY		
242	XT5M	OUTPUT, TOTAL NET OF CONTRACT CONSTRUCTION (2-YR MV AV)	MIL. 72 $$	IDENTITY		
243	X5MF	OUTPUT, FIRST DIFFERENCE OF XT5M	MIL. 72 $$	IDENTITY		
244	YX	INCOME, TOTAL BY ESTABLISHMENT	MILLIONS $	IDENTITY		5
245	Y	INCOME, TOTAL BY PLACE OF RESIDENCE	MILLIONS $	IDENTITY		5
246	Y*	INCOME, TOTAL BY PLACE OF RESIDENCE	MIL. 72 $$	IDENTITY		
247	YM	INCOME, TOTAL BY PLACE OF RESIDENCE (2-YEAR MOVING AV.)	MILLIONS $	IDENTITY		
248	YT	INCOME, TOTAL, SCALED BY TIME TREND	MILLIONS $	IDENTITY		
249	YRN	INCOME, RATIO OF STATE TO NATION	PERCENT	IDENTITY		
250	YE	INCOME, EARNINGS BY PLACE OF WORK	MILLIONS $	IDENTITY		5

S T A T E V A R I A B L E S

VAR	LABEL	DESCRIPTION	UNITS	TYPE	REFER	DATA
251	YTRP	INCOME, TRANSFER PAYMENTS	MILLIONS $	BEHAVIORAL	65	5
252	YPCI	INCOME, PERSONAL CONTRIBUTIONS FOR SOCIAL INSURANCE	MILLIONS $	BEHAVIORAL	66	5
253	YDIR	INCOME, DIVIDENDS, INTEREST & RENT	MILLIONS $	BEHAVIORAL	67	5
254	YRES	INCOME, RESIDENCE ADJUSTMENT	MILLIONS $	BEHAVIORAL	68	5
255	YET	INCOME, EARNINGS, TOTAL, SCALED BY TIME TREND	MILLIONS $	IDENTITY		
256	YT1	INCOME, TOTAL MINUS ALL MODEL TAXES	100 MIL. $$	IDENTITY		
257	YT2	INCOME, TOTAL MINUS ALL MODEL TAXES	100 ML. 72 $	IDENTITY		
258	YT3	INCOME, DISPOSABLE MINUS TRANSFER PAYMENTS	MILLIONS $	IDENTITY		
259	YT3M	INCOME, DISPOSABLE MINUS TRANSFER PAYMENTS (2-YR MV AV)	MILLIONS $	IDENTITY		
260	YT4	INCOME, PER CAPITA DISPOSABLE	THOUSANDS $	IDENTITY		
261	YT4R	INCOME, PER CAPITA DISPOSABLE, RATIO OF STATE TO NATION	PERCENT	IDENTITY		
262	Y4RM	INCOME, 2-YEAR MOVING AVERAGE OF YT4R	NORM = 1.0	IDENTITY		
263	YT5	INCOME, PER CAPITA DISPOSABLE	THOUS. 72 $$	IDENTITY		
264	YT6	INCOME, EARNINGS, OASHDI GAP: MAX TAXABLE - ACTUAL WAGE	MILLIONS $	IDENTITY		

S T A T E M O D E L I D E N T I T I E S

VAR	LABEL	DESCRIPTION	UNITS
1	BT1	$= P184 * \frac{B(N)}{P184(N)}$	THOUSANDS
2	C*	$= \frac{YE}{DPCE}$	MIL. 72 $$
3	CAFF	= WAFF * EAFF	MILLIONS $
4	CMIN	= WMIN * EMIN	MILLIONS $
5	CCC	= WCC * ECC	MILLIONS $
6	CM	= WM * EM	MILLIONS $
7	CTCU	= WTCU * ETCU	MILLIONS $
8	CWRT	= WWRT * EWRT	MILLIONS $
9	CFIR	= WFIR * EFIR	MILLIONS $
10	CSER	= WSER * ESER	MILLIONS $
11	CG	= CGFC + CGAF + CGLS	MILLIONS $
12	CGFC	= WGFC * EGFC	MILLIONS $
13	CGAF	= WGAF * EGAF	MILLIONS $
14	CGLS	= WGLS * EGLS	MILLIONS $
15	DT1	$= \frac{P65+ * D(N)}{P65+(N)}$	THOUSANDS
16	DPI	= Y - T	MILLIONS $
17	DPI*	$= \frac{DPI}{DPCE}$	MIL. 72 $$
18	DIRN	$= \frac{DPI}{DPI(N)} * 100.0$	PERCENT
19	DI*R	$= \frac{DIR}{DPCE}$	100 ML. 72 $

S T A T E M O D E L I D E N T I T I E S

VAR	LABEL	DESCRIPTION	UNITS
20	DRI	= YT1 + DIR	100 MIL. $$
21	DIR*	= YT2 + DI*R	100 ML. 72 $
22	DIER	= $100.0 * \frac{DIR}{ET1} * \frac{E}{YT1}$	NORM=100.000
23	E*	= EAFF + EMIN + ECC + EM + ETCU + EWRT + EFIR + ESER + EG + ERPA	THOUSANDS
24	E	= E* - EGAF	THOUSANDS
25	ERN	= $100.0 * \frac{E}{E(N)}$	PERCENT
26	ECCP	= $100.0 * \frac{ECC - ECC(T-1)}{ECC(T-1)} - 100.0$	PERCENT
27	EM	= EMDR + EMND	THOUSANDS
28	EG	= EGFC + EGAF + EGLS	THOUSANDS
29	ET2	= E * ST3	MILLIONS $
30	ET3	= $(E* - E*(T-1)) - [(E*(N) - E*(N)(T-1)) * \frac{E*}{E*(N)}]$	THOUSANDS
31	ET3M	= $\frac{ET3 + ET3(T-1)}{2}$	THOUSANDS
32	ET4	= $100.0 * \frac{ET1}{PT2} * \frac{PT5}{E}$	NORM = 100
33	GSR	= GSFR + GSCR + GSTR + GSMR	MILLIONS $
34	GSRF	= GSR - GSR(T-1)	MILLIONS $
35	GSOR	= GSTR + GSMR	MILLIONS $
36	GSTF	= GSTR(T-1) - GSTR(T-2)	MILLIONS $
37	GSDE	= GSE - GSXE	MILLIONS $

S T A T E M O D E L I D E N T I T I E S

VAR	LABEL	DESCRIPTION	UNITS
38	GLR	GSXE + GLFR + GLTR + GLMR	MILLIONS $
39	GLOR	GLTR + GLMR	MILLIONS $
40	GLTF	GLTR(T-1) - GLTR(T-2)	MILLIONS $
41	GLEF	GLE - GLE(T-1)	MILLIONS $
42	GLDE	GLE - GSCR	MILLIONS $
43	GR	GSR + GLR	MILLIONS $
44	GRF	GSFR + GLFR	MILLIONS $
45	GRO	GSOR + GLOR	MILLIONS $
46	GRT	GSTR + GLTR	MILLIONS $
47	GED	GSDE + GLDE	MILLIONS $
48	GE*	$\frac{GSDE + GLDE}{DQLG}$	MIL. 72 $$
49	GT1	Q + RS + YT3	MILLIONS $
50	GT1M	$\frac{Q + RS + YT3 + Q(T-1) + RS(T-1) + YT3(T-1)}{2}$	MILLIONS $
51	GT3	$GSFR(N) * \frac{GSTR}{GSTR(N)} * \frac{DPI(N)}{P(N)} * \frac{P}{P(N)} * \frac{DPI(N)}{DPI} * \frac{P}{DPI}$	MILLIONS $
52	GT4	$GSFR(N) * \frac{P}{P(N)}$	MILLIONS $
53	GT5	$GLFR(N) * \frac{GLTR}{GLTR(N)} * \frac{DPI(N)}{P(N)} * \frac{P}{P(N)} * \frac{DPI(N)}{DPI} * \frac{P}{DPI}$	MILLIONS $
54	GT6	$GLFR(N) * \frac{P}{P(N)}$	MILLIONS $
55	ICD*	IX * XCD*	MIL. 72 $$

S T A T E M O D E L I D E N T I T I E S

VAR	LABEL		DESCRIPTION	UNITS
56	LF	=	E + U	THOUSANDS
57	LFP1	=	$100.0 * \frac{LF}{P}$	PERCENT
58	LFP2	=	$100.0 * \frac{LF}{P184 + P454}$	PERCENT
59	M	=	$\frac{X}{E*}$	THOUS. 72 $$
60	MAFF	=	$\frac{XAFF}{EAFF}$	THOUS. 72 $$
61	MMIN	=	$\frac{XMIN}{EMIN}$	THOUS. 72 $$
62	MCC	=	$\frac{XCC}{ECC}$	THOUS. 72 $$
63	MCCM	=	$\frac{MCC(T-1) + MCC(T-2)}{2}$	THOUS. 72 $$
64	MM	=	$\frac{XM}{EM}$	THOUS. 72 $$
65	MMDR	=	$\frac{XMDR}{EMDR}$	THOUS. 72 $$
66	MMND	=	$\frac{XMND}{EMND}$	THOUS. 72 $$
67	MTCU	=	$\frac{XTCU}{ETCU}$	THOUS. 72 $$
68	MTCM	=	$\frac{MTCU(T-1) + MTCU(T-2)}{2}$	THOUS. 72 $$

STATE MODEL IDENTITIES

VAR	LABEL		DESCRIPTION	UNITS
69	MWRT	=	XWRT / EWRT	THOUS. 72 $$
70	MWRM	=	(MWRT(T-1) + MWRT(T-2)) / 2	THOUS. 72 $$
71	MFIR	=	XFIR / EFIR	THOUS. 72 $$
72	MFRM	=	(MFIR(T-1) + MFIR(T-2)) / 2	THOUS. 72 $$
73	MSER	=	XSER / ESER	THOUS. 72 $$
74	MSRM	=	(MSER(T-1) + MSER(T-2)) / 2	THOUS. 72 $$
75	MG	=	XG / EG	THOUS. 72 $$
76	MGFC	=	XGFC / EGFC	THOUS. 72 $$
77	MGLS	=	XGLS / EGLS	THOUS. 72 $$
78	MVLM	=	(MVLD + MVLD(T-1)) / 2	THOUSANDS
79	MVT1	=	MVLD * DCAN	INDEX
80	MVT2	=	MVR * DCG	INDEX
81	MVT3	=	MVLM - MVLM(T-1)	THOUSANDS
82	P	=	PUN5 + P517 + P184 + P454 + P65+	THOUSANDS

S T A T E M O D E L I D E N T I T I E S

VAR	LABEL	DESCRIPTION	UNITS
83	PM	$= \frac{P + P(T-1)}{2}$	THOUSANDS
84	PRN	$= \frac{P}{P(N)} * 100.0$	PERCENT
85	PMN	$= P - P(T-1) - B + D$	THOUSANDS
86	PT1	$= P184 + P454 + P65+$	THOUSANDS
87	PT1M	$= \frac{P184 + P454 + P65+ + P184(T-1) + P454(T-1) + P65+(T-1)}{2}$	THOUSANDS
88	P1MF	$= PT1M - PT1M(T-1)$	THOUSANDS
89	PT4	$= \frac{P - P65+}{3} + UI$	THOUSANDS
90	PT5	$= P184 + P454$	THOUSANDS
91	PT5P	$= \frac{(P184 + P454) - (P184(T-1) + P454(T-1))}{(P184(T-1) + P454(T-1))} * 100.0$	PERCENT
92	PT6	$= P * DC$	INDEX
93	PT7	$= \frac{P65+ * ST1}{1000}$	INDEX
94	PT8	$= P * DCFH$	INDEX
95	PT9	$= P * DCFX$	INDEX
96	PT0	$= \frac{PT4 * ST2}{1000}$	INDEX
97	Q	$= QAFF + QMIN + QCC + QM + QTCU + QWRT + QFIR + QSER + QG$	MILLIONS $
98	QRN	$= 100.0 * \frac{Q}{Q(N)}$	PERCENT

STATE MODEL IDENTITIES

VAR	LABEL		DESCRIPTION	UNITS
99	QAFF	=	XAFF * DQAF	MILLIONS $
100	QMIN	=	XMIN * DQMI	MILLIONS $
101	QCC	=	XCC * DQCC	MILLIONS $
102	QCCP	=	$100.0 * \frac{QCC - QCC(T-1)}{QCC(T-1)} - 100.0$	
103	QM	=	QMDR + QMND	MILLIONS $
104	QMDR	=	XMDR * DQMD	MILLIONS $
105	QMND	=	XMND * DQMN	MILLIONS $
106	QTCU	=	XTCU * DQTU	MILLIONS $
107	QWRT	=	XWRT * DQWR	MILLIONS $
108	QFIR	=	XFIR * DQFR	MILLIONS $
109	QSER	=	XSER * DQSR	MILLIONS $
110	QG	=	QGFC + QGAF + QGLS	MILLIONS $
111	QGFC	=	XGFC * DQFG	MILLIONS $
112	QGAF	=	XGAF * DQFG	MILLIONS $
113	QGLS	=	XGLS * DQLG	MILLIONS $
114	QT1	=	$\frac{Q * FT5M}{100.0}$	INDEX
115	RS	=	RSF + RSED + RSA + RSGS + RSO	MILLIONS $
116	RSM	=	$\frac{RS + RS(T-1)}{2}$	MILLIONS $
117	RS*	=	RSF* + RSE* + RSA* + RSG* + RSO*	MIL. 72 $$
118	RSF*	=	$\frac{RSF}{DCFH}$	MIL. 72 $

STATE MODEL IDENTITIES

VAR	LABEL		DESCRIPTION	UNITS
119	RSE*	=	$\frac{RSED}{DCFX}$	MIL. 72 $$
120	RSA*	=	$\frac{RSA}{DCAN}$	MIL. 72 $$
121	RSG*	=	$\frac{RSGS}{DCG}$	MIL. 72 $$
122	RSO*	=	$\frac{RSO}{DPCE}$	MIL. 72 $$
123	T	=	TF + TS + TLN	MILLIONS $
124	TF	=	TFI + TFO	MILLIONS $
125	TS	=	TSI + TSO	MILLIONS $
126	U	=	$UR * \frac{E}{(100 - UR)}$	THOUSANDS
127	UI	=	$\frac{UIR * LF}{100.0}$	THOUSANDS
128	UT1	=	$\frac{(UR - 5) * LF}{100}$	THOUSANDS
129	UX1	=	$\frac{(UR - 5) * LF}{10000}$	100 THOUSAND
130	UT2	=	100.0 * (UR - UR(T-1))	PERCENT*100
131	UX2	=	UR - UR(T-1)	PERCENT
132	UT3	=	$\frac{UR}{UR(N)} * 100.0$	NORM = 100
133	UX3	=	$\frac{UR}{UR(N)}$	NORM = 1.0

S T A T E M O D E L I D E N T I T I E S

VAR	LABEL		DESCRIPTION	UNITS
134	W	=	YE / E*	THOUSANDS $
135	WRN	=	W / W(N) * 100.0	PERCENT
136	WAFR	=	(WAFF(T-1) + WAFF(T-2)) / (W(T-1) + W(T-2)) * 100.0	NORM = 100
137	WMIA	=	WMIN(N)(T-1) - WMIN(T-1)	THOUSANDS $
138	WCCA	=	WCC(N)(T-1) - WCC(T-1)	THOUSANDS $
139	WCCR	=	(WCC(T-1) + WCC(T-2)) / (W(T-1) + W(T-2)) * 100.0	NORM = 100
140	WMA	=	WM(N)(T-1) - WM(T-1)	THOUSANDS $
141	WMR	=	(WM(T-1) + WM(T-2)) / (W(T-1) + W(T-2)) * 100.0	NORM = 100
142	WMRA	=	WM / WM(N) * 100.0	NORM = 100
143	WTCA	=	WTCU(N)(T-1) - WTCU(T-1)	THOUSANDS $
144	WTCR	=	(WTCU(T-1) + WTCU(T-2)) / (W(T-1) + W(T-2)) * 100.0	NORM = 100
145	WWRR	=	(WWRT(T-1) + WWRT(T-2)) / (W(T-1) P W(T-2)) * 100.0	NORM = 100
146	WFRA	=	WFIR(N)(T-1) - WFIR(T-1)	THOUSANDS $
147	WFRR	=	(WFIR(T-1) + WFIR(T-2)) / (W(T-1) P W(T-2)) * 100.0	NORM = 100
148	WSRR	=	(WSER(T-1) + WSER(T-2)) / (W(T-1) P W(T-2)) * 100.0	NORM = 100

STATE MODEL IDENTITIES

VAR	LABEL	DESCRIPTION	UNITS
149	WG	$\frac{WGFC * EGFC + WGAF * EGAF + WGLS * EGLS}{EGFC + EGAF + EGLS}$	THOUSANDS $
150	X	XAFF + XMIN + XCC + XM + XTCU + XWRT + XFIR + XSER + XG	MIL. 72 $$
151	XF	X - X(T-1)	MIL. 72 $$
152	XRN	$100.0 * \frac{X}{X(N)}$	PERCENT
153	XCCM	$\frac{XCC + XCC(T-1)}{2}$	MIL. 72 $$
154	XCMP	$100.0 * \frac{XCCM}{XCCM(T-1)} - 100.0$	PERCENT
155	XM	XMDR + XMND	MIL. 72 $$
156	XG	XGFC + XGAF + XGLS	MIL. 72 $$
157	XGCM	$\frac{XGFC(T-1) + XGFC(T-2)}{2}$	MIL. 72 $$
158	XT1	X * XCD*	MIL. 72 $$
159	XT2	$100.0 * \frac{X - X(T-1)}{X(T-1)} - 103.0$	PERCENT
160	XT3	XM + XMIN	MIL. 72 $$
161	XT4	XM + XMIN + XAFF	MIL. 72 $$
162	XT5	X - XCC	MIL. 72 $$
163	XT5M	$\frac{X - XCC + X(T-1) - XCC(T-1)}{2}$	MIL. 72 $$
164	X5MF	XT5M - XT5M(T-1)	MIL. 72 $$
165	YX	YE + YDIR + YTRP - YPCI	MILLIONS $

S T A T E M O D E L I D E N T I T I E S

VAR	LABEL	DESCRIPTION	UNITS
166	Y	YX + YRES	MILLIONS $
167	Y*	Y / DPCE	MIL. 72 $$
168	YM	(Y + Y(T-1)) / 2	MILLIONS $
169	YT	(Y * TIME) / 100	MILLIONS $
170	YRN	100.0 * Y / Y(N)	PERCENT
171	YE	CAFF + CMIN + CCC + CM + CTCU + CWRT + CFIR + CSER + CG	MIL. $$
172	YET	(YE * TIME) / 100	MILLIONS $
173	YT1	Y - GRO - TF	100 MIL. $$
174	YT2	YT1 / DPCE	100 ML. 72 $
175	YT3	DPI - YTRP	MILLIONS $
176	YT3M	(DPI - YTRP + DPI(T-1) - YTRP(T-1)) / 2	MILLIONS $
177	YT4	DPI / P	THOUSANDS $
178	YT4R	(DPI / P) * (P(N) / DPI(N)) * 100.0	PERCENT
179	Y4RM	(YT4R + YT4R(T-1)) / 2	NORM = 1.0

S T A T E M O D E L I D E N T I T I E S

VAR	LABEL	DESCRIPTION	UNITS
180	YT5	$= \frac{DPI*}{P}$	THOUS. 72 $$
181	YT6	$= YE * \frac{SSP2 - W}{SSP2}$	MILLIONS $

N A T I O N A L V A R I A B L E S

VAR	LABEL	DESCRIPTION	UNITS	TYPE	REFER	DATA
1	AFP	ARMED FORCES PERSONNEL, TOTAL	THOUSANDS	IDENTITY		11
2	AFPA	ARMED FORCES PERSONNEL, ARMY	THOUSANDS	EXOGENOUS		11
3	AFPF	ARMED FORCES PERSONNEL, AIR FORCE	THOUSANDS	EXOGENOUS		11
4	AFPN	ARMED FORCES PERSONNEL, NAVY	THOUSANDS	EXOGENOUS		11
5	AFPM	ARMED FORCES PERSONNEL, MARINES	THOUSANDS	EXOGENOUS		11
6	AFPX	ARMED FORCES PERSONNEL, NAVY & MARINES	THOUSANDS	IDENTITY		
7	CCI	CONSUMER CONFIDENCE INDEX	1969-70=100	BEHAVIORAL		14
8	CCIP	CONSUMER CONFIDENCE INDEX, PERCENT CHANGE	PERCENT	IDENTITY		
9	CEMX	AVERAGE CONSUMPTION OF DURABLES (CEMD/DPI*)	PERCENT	BEHAVIORAL		
10	CEMD	CONSUMPTION EXPENDITURES, MANUFACTURING DURABLES	BIL. 72 $$	IDENTITY		12
11	CQGF	OUTPUT / UNIT COMPENSATION, GOV'T, FEDERAL CIVILIAN	RATIO	EXOGENOUS		12
12	CQGA	OUTPUT / UNIT COMPENSATION, GOV'T, FEDERAL MILITARY	RATIO	EXOGENOUS		12
13	DC	CONSUMER PRICE INDEX, ALL ITEMS	1967 = 1.0	BEHAVIORAL		12
14	DCFH	CONSUMER PRICE INDEX, FOOD AT HOME	1967 = 1.0	BEHAVIORAL		12
15	DCFX	CONSUMER PRICE INDEX, FOOD AWAY FROM HOME	1967 = 1.0	BEHAVIORAL		12
16	DCAN	CONSUMER PRICE INDEX, NEW AUTOMOBILES	1967 = 1.0	BEHAVIORAL		12
17	DCX	CONSUMER PRICE INDEX, ALL ITEMS	1967 = 100	IDENTITY		
18	DCP	CONSUMER PRICE INDEX, PERCENT CHANGE	PERCENT	IDENTITY		
19	DCM	CONSUMER PRICE INDEX, (2-YEAR MOVING AVERAGE)	1966-7 = 1.0	IDENTITY		
20	DCML	CONSUMER PRICE INDEX, DCM IN PREVIOUS PERIOD	1965-6 = 1.0	IDENTITY		
21	DCPM	CONSUMER PRICE INDEX, PERCENT CHANGE (2-YEAR MOV AV)	PERCENT	IDENTITY		
22	DPML	CONSUMER PRICE INDEX, DCPM IN PREVIOUS PERIOD	PERCENT	IDENTITY		
23	DCT1	CONSUMER PRICE INDEX, 'REAL' COST OF HOME COOKING	1967 = 100	IDENTITY		
24	DCT2	CONSUMER PRICE INDEX, PERCENT CHANGE MINUS 2-YR MOV AV	PERCENT	IDENTITY		
25	DCT5	CONSUMER PRICE INDEX, 'REAL' COST OF NEW AUTOMOBILES	1967 = 100	IDENTITY		
26	DCT6	CONSUMER PRICE INDEX, 'REAL' COST OF GASOLINE	1967 = 100	IDENTITY		
27	DPCE	PRICE DEFLATOR, PERSONAL CONSUMPTION EXPENDITURES	1972 = 1.0	BEHAVIORAL		12
28	DQ	OUTPUT PRICE DEFLATOR, TOTAL	1972 = 1.0	IDENTITY		12
29	DQAF	OUTPUT PRICE DEFLATOR, AGRICULTURE, FOREST. & FISH.	1972 = 1.0	EXOGENOUS		12
30	DQMI	OUTPUT PRICE DEFLATOR, MINING	1972 = 1.0	EXOGENOUS		12
31	DQCC	OUTPUT PRICE DEFLATOR, CONTRACT CONSTRUCTION	1972 = 1.0	BEHAVIORAL		12
32	DQM	OUTPUT PRICE DEFLATOR, MANUFACTURING, TOTAL	1972 = 1.0	IDENTITY		12
33	DQMD	OUTPUT PRICE DEFLATOR, MANUFACTURING, DURABLE GOODS	1972 = 1.0	BEHAVIORAL		12
34	DQMN	OUTPUT PRICE DEFLATOR, MANUFACTURING, NONDURABLE GOODS	1972 = 1.0	BEHAVIORAL		12
35	DQTU	OUTPUT PRICE DEFLATOR, TRANSPORTATION, COMM., & UTIL.	1972 = 1.0	BEHAVIORAL		12
36	DQWR	OUTPUT PRICE DEFLATOR, WHOLESALE & RETAIL TRADE	1972 = 1.0	BEHAVIORAL		12
37	DQFR	OUTPUT PRICE DEFLATOR, FINANCE, INS., & REAL ESTATE	1972 = 1.0	BEHAVIORAL		12
38	DQSR	OUTPUT PRICE DEFLATOR, SERVICES	1972 = 1.0	BEHAVIORAL		12
39	DQG	OUTPUT PRICE DEFLATOR, GOVERNMENT, TOTAL	1972 = 1.0	IDENTITY		12
40	DQFG	OUTPUT PRICE DEFLATOR, GOVERNMENT, FEDERAL	1972 = 1.0	BEHAVIORAL		12
41	DQLG	OUTPUT PRICE DEFLATOR, GOVERNMENT, STATE & LOCAL	1972 = 1.0	BEHAVIORAL		12
42	DEMW	PRICE DEFLATOR, MINIMUM EFFECTIVE ANNUAL WAGE RATE	CENTS / HOUR	EXOGENOUS		
43	DXMW	PRICE DEFLATOR, MINIMUM EFFECTIVE ANNUAL WAGE RATE	$$ / HOUR	IDENTITY		11
44	DWCU	PRICE DEFLATOR, CONSTRUCTION, UNION HOURLY WAGE RATE	1967 = 100	EXOGENOUS		11
45	DXCU	PRICE DEFLATOR, CONSTRUCTION, UNION HOURLY WAGE RATE	1967 = 1.0	IDENTITY		
46	DU74	DUMMY VARIABLE, 1974=1, OTHERWISE = 0	1974 = 1.0	EXOGENOUS		
47	DW	WHOLESALE PRICE INDEX, ALL ITEMS	1967 = 1.0	EXOGENOUS		12
48	DWX	WHOLESALE PRICE INDEX, ALL ITEMS	1967 = 1.0	IDENTITY		
49	EXAF	EMPLOYEES PER UNIT OF OUTPUT, AGRIC., FOREST., FISH.	E/THS. 72 $$	IDENTITY		
50	EXMI	EMPLOYEES PER UNIT OF OUTPUT, MINING	E/THS. 72 $$	IDENTITY		

N A T I O N A L V A R I A B L E S

VAR	LABEL	DESCRIPTION	UNITS	TYPE	REFER	DATA
51	EXCC	EMPLOYEES PER UNIT OF OUTPUT, CONTRACT CONSTRUCTION	E/THS. 72 $$	IDENTITY		
52	EXMD	EMPLOYEES PER UNIT OF OUTPUT, MANUFACTURING DURABLES	E/THS. 72 $$	IDENTITY		
53	EXMN	EMPLOYEES PER UNIT OF OUTPUT, MANUFACTURING NONDURABLES	E/THS. 72 $$	IDENTITY		
54	EXTC	EMPLOYEES PER UNIT OF OUTPUT, TRANS., COMM., & UTIL.	E/THS. 72 $$	IDENTITY		
55	EXWR	EMPLOYEES PER UNIT OF OUTPUT, WHOLESALE & RETAIL TRADE	E/THS. 72 $$	IDENTITY		
56	EXFI	EMPLOYEES PER UNIT OF OUTPUT, FINANCE, INS., & REAL EST	E/THS. 72 $$	IDENTITY		
57	EXSE	EMPLOYEES PER UNIT OF OUTPUT, SERVICES	E/THS. 72 $$	IDENTITY		
58	FBYA	FINANCIAL, BOND YIELD, MOODY'S DOMESTIC CORP.	PERCENT	BEHAVIORAL		12
59	FBYX	FINANCIAL, BOND YIELD, MOODY'S DOMESTIC CORP.	PERCENT*100	IDENTITY		
60	FPCP	FINANCIAL, PRIME COMMERCIAL PAPER YIELD, 4 - 6 MONTHS	PERCENT	BEHAVIORAL		12
61	FT1	FINANCIAL, RATE OF RETURN INDEX A	PERCENT	IDENTITY		
62	FT5	FINANCIAL, RATE OF RETURN INDEX B	1972 = 100	IDENTITY		
63	FT5M	FINANCIAL, RATE OF RETURN INDEX B (2-YR MOVING AVER.)	1971-2=100	IDENTITY		
64	GFPA	GOVERNMENT, FEDERAL, ANNUAL PAY INCREASE	PERCENT	EXOGENOUS		16
65	GFPC	GOVERNMENT, FEDERAL, CUMULATIVE ANNUAL PAY INCREASES	1950 = 100	IDENTITY		
66	GEFD	GOVERNMENT, FEDERAL, EXPENDITURES ON DURABLE GOODS	BIL. 72 $$	EXOGENOUS		12
67	GELD	GOVERNMENT, STATE & LOCAL, EXPENDITURES ON DURABLES	BIL. 72 $$	BEHAVIORAL		12
68	IFEX	INVESTMENT, SHARE OF GROSS NATIONAL PRODUCT	PERCENT	BEHAVIORAL		
69	IFE*	INVESTMENT, NONRESIDENTIAL FIXED EQUIPMENT	BIL. 72 $$	IDENTITY		12
70	OF	FARM PRODUCTION INDEX, TOTAL	1967 = 100	EXOGENOUS		11
71	OFL	FARM PRODUCTION INDEX, TOTAL LIVESTOCK	1967 = 100	EXOGENOUS		11
72	OFMA	FARM PRODUCTION INDEX, MEAT ANIMALS	1967 = 100	EXOGENOUS		11
73	OFD	FARM PRODUCTION INDEX, DAIRY PRODUCTS	1967 = 100	EXOGENOUS		11
74	OFC	FARM PRODUCTION INDEX, TOTAL CROPS	1967 = 100	EXOGENOUS		11
75	OFFG	FARM PRODUCTION INDEX, FEED GRAINS	1967 = 100	EXOGENOUS		11
76	OFFD	FARM PRODUCTION INDEX, FOOD GRAINS	1967 = 100	EXOGENOUS		11
77	OFCT	FARM PRODUCTION INDEX, COTTON	1967 = 100	EXOGENOUS		11
78	OFT	FARM PRODUCTION INDEX, TOBACCO	1967 = 100	EXOGENOUS		11
79	OMI	MINING PRODUCTION INDEX, TOTAL	1967 = 100	EXOGENOUS		12
80	OMIM	MINING PRODUCTION INDEX, METALS	1967 = 100	EXOGENOUS		12
81	OMIC	MINING PRODUCTION INDEX, COAL	1967 = 100	EXOGENOUS		12
82	OMIX	MINING PRODUCTION INDEX, OIL & GAS EXTRACTION	1967 = 100	EXOGENOUS		12
83	OMIS	MINING PRODUCTION INDEX, STONE & EARTH MINERALS	1967 = 100	EXOGENOUS		12
84	SSBX	SOCIAL SECURITY (OASDHI) ELIGIBLE RECEIVING BENEFIT	PERCENT	EXOGENOUS		15
85	SSBY	SOCIAL SECURITY (OASDHI) INSURED WORKERS, AGE 65 & OVER	THOUSANDS	EXOGENOUS		15
86	SSB1	SOCIAL SECURITY (OASDHI) AVERAGE RETIREMENT BENEFIT	$$ PER MONTH	EXOGENOUS		15
87	SSB2	SOCIAL SECURITY (OASDHI) ELIGIBLE BENEFIT COVERAGE	PERCENT	EXOGENOUS		15
88	SSP1	SOCIAL SECURITY (OASDHI) EMPLOYEE CONTRIBUTION RATE	PERCENT	EXOGENOUS		11
89	SSP2	SOCIAL SECURITY (OASDHI) MAXIMUM TAXABLE EARNINGS	THOUSANDS $	EXOGENOUS		11
90	SSC	SOCIAL SECURITY (OASDHI) WORKER COVERAGE RATE	PER. OF EMPL	EXOGENOUS		15
91	ST1	SOCIAL SECURITY (OASDHI) BENEFITS / RETIRED WORKER, 65+	$$/PERSON	IDENTITY		
92	ST2	SOCIAL SECURITY (OASDHI) HOUSEHOLD PAYMENTS INDEX	INDEX	IDENTITY		
93	ST3	SOCIAL SECURITY (OASDHI) PAYMENTS	$$ / EMPL.	IDENTITY		
94	TIME	TIME TREND (LINEAR)	1950 = 1.0	EXOGENOUS		
95	TIMX	TIME TREND (LINEAR)	1950 = 100	EXOGENOUS		
96	TRDX	TRADE DEFICIT (SURPLUS) RELATIVE TO GNP	PERCENT	EXOGENOUS		12
97	UICR	UNEMPLOYMENT INSURANCE, COVERED IN LABOR FORCE	PERCENT	EXOGENOUS		13
98	XCD*	OUTPUT, RATIO OF DURABLE GOODS TO GROSS NATIONAL PROD.	RATIO	IDENTITY		

N A T I O N A L M O D E L I D E N T I T I E S

VAR	LABEL	DESCRIPTION	UNITS
1	AFP	= AFPA + AFPF + AFPN + AFPM	THOUSANDS
2	AFPX	= AFPN + AFPM	THOUSANDS
3	CCIP	$= 100.0 * \frac{CCI}{CCI(T-1)} - 100.0$	PERCENT
4	CEMD	$= \frac{CEMX * DPI*}{100,000}$	BIL. 72 $$
5	DCX	= 100.0 * DC	1967 = 100
6	DCP	$= 100.0 * \frac{DC}{DC(T-1)} - 100.0$	PERCENT
7	DCM	$= \frac{DC + DC(T-1)}{2}$	1966-7 = 1.0
8	DCML	$= \frac{DC(T-1) + DC(T-2)}{2}$	1965-6 = 1.0
9	DCPM	$= \frac{DCP + DCP(T-1)}{2}$	PERCENT
10	DPML	$= \frac{DCP(T-1) + DCP(T-2)}{2}$	PERCENT
11	DCT1	$= \frac{DCFH}{DCFX} * 100.0$	1967 = 100
12	DCT2	= DCP - DCPM(T-1)	PERCENT
13	DCT5	$= 100.0 * \frac{DCAN}{DC}$	1967 = 100
14	DCT6	$= 100.0 * \frac{DCG}{DC}$	1967 = 100

N A T I O N A L M O D E L I D E N T I T I E S

VAR	LABEL	DESCRIPTION	UNITS
15	DQ	$= \frac{Q(N)}{X(N)}$	1972 = 1.0
16	DQM	$= \frac{QM(N)}{XM(N)}$	1972 = 1.0
17	DQG	$= \frac{QG(N)}{XG(N)}$	1972 = 1.0
18	DXMW	$= \frac{DEMW}{100.0}$	$$ / HOUR
19	DXCU	$= \frac{DWCU}{100.0}$	1967 = 1.0
20	DWX	$= DW * 100.0$	1967 = 1.0
21	EXAF	$= 100.0 * \frac{EAFF(N)(T-1)}{XAFF(N)(T-1)}$	E/THS. 72 $$
22	EXMI	$= 100.0 * \frac{EMIN(N)(T-1)}{XMIN(N)(T-1)}$	E/THS. 72 $$
23	EXCC	$= 100.0 * \frac{ECC(N)(T-1)}{XCC(N)(T-1)}$	E/THS. 72 $$
24	EXMD	$= 100.0 * \frac{EMDR(N)(T-1)}{XMDR(N)(T-1)}$	E/THS. 72 $$
25	EXMN	$= 100.0 * \frac{EMND(N)(T-1)}{XMND(N)(T-1)}$	E/THS. 72 $$
26	EXTC	$= 100.0 * \frac{ETCU(N)(T-1)}{XTCU(N)(T-1)}$	E/THS. 72 $$
27	EXWR	$= 100.0 * \frac{EWRT(N)(T-1)}{XWRT(N)(T-1)}$	E/THS. 72 $$

N A T I O N A L M O D E L I D E N T I T I E S

VAR	LABEL		DESCRIPTION	UNITS
28	EXFI	=	$100.0 * \frac{EFIR(N)(T-1)}{XFIR(N)(T-1)}$	E/THS. 72 $$
29	EXSE	=	$100.0 * \frac{ESER(N)(T-1)}{XSER(N)(T-1)}$	E/THS. 72 $$
30	FBYX	=	FBYA * 100.0	PERCENT*100
31	FT1	=	$\frac{FBYA + DCP}{2}$	PERCENT
32	FT5	=	0.064 * (FPCP + FBYA + DCP)	1972 = 100
33	FT5M	=	$\frac{FTN5 + FTN5(T-1)}{2}$	1971-2=100
34	GFPC	=	$GFPC(T-I) * \frac{100 + GFPA}{100}$	1950 = 100
35	IFE*	=	$\frac{IFEX * X(N)}{100,000}$	BIL. 72 $$
36	ST1	=	$\frac{SSBY * SSBX * SSB1}{P65+(N)}$	$$/PERSON
37	ST2	=	SSC * DC	INDEX
38	ST3	=	SSC * SSP1 * SSP2	$$ / EMPL.
39	XCD*	=	$\frac{IFE* + CEMD + GELD}{X(N)} * 1000.0$	RATIO

Appendix B

DATA SOURCES

In order to insure data comparability over time and space, the majority of NRIES data comes from Federal Government sources. In some cases, the data series are considered to be valid as directly published, and here only the bibliographical references are listed. In many cases, however, several different sources of data are used to construct a single data series. When this occurs, both the bibliographical references and the construction methodology are discussed.

For a detailed listing of the variables that correspond with each data source, refer to appendix A.

1. Vital statistics: U.S. Department of Health, Education, and Welfare, "Monthly Vital Statistics Report," Washington, D. C.

2. Population

A. By age and total--U.S. Department of Commerce, Bureau of the Census, "Current Population Reports, Population Estimates and Projections: Estimates of the Population of States, by Age" (Series P-25), Washington, D. C.

B. Total--Bureau of the Census estimates obtained from the Regional Economic Information System, U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Measurement Division, Washington, D. C.

C. Adjustment--source A is not consistent over time. To adjust for intertemporal consistency, source B is applied such that:

$$P_t^i = {}^aP_t^i * \frac{{}^bP_t}{{}^aP_t} \qquad \text{(B-1)}$$

where:

P is population
i is age group
t is time period
a is data source A
b is data source B

3. Industry employment

A. 1967 on--obtained from the Regional Economic Information System

B. To 1967--U.S. Department of Labor, Bureau of Labor Statistics , Employment and Earnings, States and Areas, 1939-1975, Washington, D. C. (1976).

C. Agriculture to 1967--U.S. Department of Agriculture, Statistical Reporting Service, Crop Reporting Board, "Farm Labor," Washington, D.C.

D. Adjustment to 1967--An intertemporal adjustment is made so that sources B and C are made consistent with source A. For example, for all data prior to 1967, source B data are made consistent with source A data according to the following equation:

$$E_t^i = {}^bE_t^i * \frac{{}^aE_{67}^i}{{}^bE_{67}^i} \qquad \text{(B-2)}$$

where:

E is employment
i is industry
t is time period (67 refers to 1967 data)
a is data source A
b is data source B

4. Labor force and unemployment

A. U.S.: all data; States: 1970 on--U.S. Department of Labor, Employment and Training Administration, "Employment and Training Report of the President," Washington, D.C.

B. 1962-1970-- Manpower Training Administration, "Area Trends in Employment and Unemployment," Washington, D.C.

C. To 1962--Employment and Training Administration, Office of Policy Evaluation and Research, Labor Market Information Division, Washington, D.C. (unpublished).

D. District of Columbia--District of Columbia Department of Manpower (unpublished).

E. Adjustment to 1970--An intertemporal adjustment is made so that sources B-D are consistent with source A. For example, for all data prior to 1970, source B data are made consistent with source A data according to the following equation:

$${}^*V_t = {}^bV_t * \frac{{}^aV_{70}}{{}^bV_{70}} \qquad \text{(B-3)}$$

where:

V is labor force or unemployment data estimate
t is time period (70 refers to 1970 data)
a is data source A
b is data source B
* is published data value

In all cases, the resulting labor force and unemployment data for the State(s) are scaled to sum to national totals:

$$\sum_{i=1}^{51} {}^*V_t^s = V_t^n \qquad \text{(B-4)}$$

F. Miscellaneous Adjustments--in some cases, State total unemployment data were not available. Here, total unemployment estimates were constructed by substituting the number of insured unemployment in 4-E.

5. Sources of personal income

A. 1958 on--Regional Economic Information System

B. To 1958--Regional Economic Measurement Division (unpublished)

6. Output

A. For 1963, 1967, 1972--Bureau of Economic Analysis, Regional Economic Analysis Division, Washington, D. C. (unpublished-preliminary).

B. U.S. data, all years--Bureau of Economic Analysis, Survey of Current Business (monthly).

C. Adjustment--source A data are used directly. In equation B-5 employee compensation, (source 5) are scaled by a Kendrick-Jaycox-type national interpolation factor (source B). In equation B-6, the result is scaled to correspond to the source A data.

$$ {}^{*}Q_t^i = C_t^i * \frac{{}^{n}Q_t^i}{{}^{n}C_t^i} \qquad \text{(B-5)} $$

where:

C	is employee compensation
Q	is output
i	is industry
n	is national
t	is time period
*	is preliminary estimate superscript

$$ Q_t^i = {}^{*}Q_t^i - {}^{*}\left[\frac{\dfrac{{}^{a}Q_{t+n}^i}{{}^{*}Q_{t+n}^i} - \dfrac{{}^{a}Q_{t-m}^i}{{}^{*}Q_{t-m}^i}}{\dfrac{m+n}{n}} + \frac{{}^{a}Q_{t-m}^i}{{}^{*}Q_{t-m}^i} \right] \qquad \text{(B-6)} $$

where:

t-m	is previous benchmark
t+n	is following benchmark
a	is source A (benchmark)

The before-1962 and after-1972 adjustments use the 1962 and 1967 benchmark ratios (${}^{a}Q^i/{}^{*}Q^i$), respectively. After calculating the Kendrick-Jaycox estimate and adjusting to benchmarks, the resultant industry output estimates for the State (s) are scaled to sum to national (n) totals:

$$ {}^{n}Q_t^i = \sum_{s=1}^{51} {}^{s}Q_t^i \; . \qquad \text{(B-7)} $$

7. Motor vehicles

U.S. Department of Transportation, Federal Highway Administration, Highway Statistics, Washington, D. C.

8. Retail sales

A. For 1954, 1958, 1963, 1967, 1972--Bureau of the Census, Census of Retail Trade.

B. All years--Sales and Marketing Management Magazine, "Survey of Buying Power" issue.

C. Adjustment--source A data are used directly. Source B data are then used to interpolate for the remaining periods.

$$ RS_t^i = {}^{b}RS_t^i * \left[\frac{\dfrac{{}^{a}RS_{t+n}^i}{{}^{b}RS_{t+n}^i} - \dfrac{{}^{a}RS_{t-m}^i}{{}^{b}RS_{t-m}^i}}{\dfrac{m+n}{n}} + \frac{{}^{a}RS_{t-m}^i}{{}^{b}RS_{t-m}^i} \right] \qquad \text{(B-8)} $$

where:

RS	is retail sales
i	is (retail sales) store type
a	is source A
b	is source B
t	is time period
t-m	is the previous benchmark (source A)
t+n	is the following benchmark (source A)

The before-1954 and after-1972 interpolations use the 1962 and 1967 benchmark ratios (${}^{a}RS^i/{}^{b}RS^i$), respectively.

9. State and local government fiscal

Bureau of the Census, Governmental Finances.

10. Personal tax and nontax payments

Regional Economic Information System.

11. National (1)

Bureau of the Census, Statistical Abstract of the United States (often a secondary source).

12. National (2)

Survey of Current Business (often a secondary source).

13. National (3)

Employment and Training Report of the President.

14. National (4)

The Conference Board, "Statistical Bulletin."

15. National (5)

U.S. Department of Health, Education, and Welfare, Social Security Bulletin: Annual Statistical Supplement.

16. National (6)

U.S. Civil Service Commission, Bureau of Manpower Information Systems, "Federal Civilian Work Force Statistics: Pay Structure of the Federal Civil Service," Washington, D. C.

Appendix C

EQUATIONS

There are 68 variables estimated stochastically for each of the 51 State-areas in NRIES. This appendix presents a summary of the results for these equations, the estimated coefficients, and t-test and equation-fit statistics.

Approximately 100 equations are labeled as 'EXOGENOUS' in this appendix; either the data values are near, or at, zero, prohibiting an estimation, or the State variable is too volatile or dependent on particular legislation to effectively model. Examples of the zero data case include the Texas State income tax or the State government fiscal variables in the District of Columbia. Examples of the volatile legislative case include the construction industry in Alaska and the mining industry in several States.

Below is an example of a typical State equation:

NMEX EWRT	=	28.71	+	.0459 NMEX (5.68) XWRT	+	.5616 NMEX (4.22) EWRL	+	-2.9921 NMEX (4.00) MWRM

R SQAR BAR	=	.898	DURBIN WAT	=	2.119
AVER % ERR	=	.83	ESTIMATION	=	OLS

Area labels are shown on the top and variable labels, on the bottom. The t-statistics are shown in brackets below the coefficients. All one-period (t-1) lagged variables end with 'L'. The letters preceding the 'L' refer to the actual variable that is lagged. For example, the lag of EWRT is EWRL.

'R SQAR BAR' is the R^2 adjusted for degrees of freedom:

$$\bar{R}^2 = \frac{\sum(\hat{Y}_t - \bar{Y})^2}{\sum(Y_t - \bar{Y})^2} * \frac{N - k}{N - 1} \qquad \text{(C-1)}$$

'AVER % ERR' is the average (absolute) percent error:

$$\% \text{ Error} = \frac{\sum|Y_t - \hat{Y}_t|}{\sum Y_t} * 100 \qquad \text{(C-2)}$$

'DURBIN WAT' is the Durbin-Watson test statistic for serial (auto) correlation:

$$\text{D-W} = \frac{\sum(e_t - e_{t-1})^2}{\sum e_t^2} \qquad \text{(C-3)}$$

'ESTIMATION' is the method of estimation:

'OLS': ordinary least squares - normal, or
'C-O': ordinary least squares--with a first order Cochrane-Orcutt adjustment (for serial correlation)

where:

Y is observed value of dependent variable
$\hat{Y}$ is estimated value of dependent variable
$\overline{Y}$ is mean value of dependent variable
N is number of observations
k is number of independent variables in the estimation
e is prediction error $(Y - Y)$
t is time period

ESTIMATION FOR: B BIRTHS, LIVE (1) LAG DEPENDENT VARIABLE: BL

THE ESTIMATION PERIOD IS FROM 1955 TO 1976 EXCEPT FOR 1957 TO 1976 IN STATES: ALAS

ALAB	-81.77	+	.7327	ALAB	+	-1.4946	U.S.	+	1.7719	ALAB		R SQAR BAR=	.981	DURBIN WAT=	1.766
B			(6.12)	BT1		(7.94)	TIME		(5.09)	YT4R		AVER % ERR=	1.37	ESTIMATION=	OLS
ALAS	-1.44	+	.9920	ALAS	+	.1867	ALAS	+	.0091	ALAS		R SQAR BAR=	.694	DURBIN WAT=	2.420
B			(6.41)	BT1		(3.45)	BT1L		(1.29)	YT4R		AVER % ERR=	3.43	ESTIMATION=	OLS
ARIS	-34.33	+	.5694	ARIZ	+	.3718	ARIZ	+	.4321	ARIZ		R SQAR BAR=	.822	DURBIN WAT=	1.855
B			(2.55)	BT1		(2.39)	BL		(3.62)	YT4R		AVER % ERR=	2.65	ESTIMATION=	OLS
ARKA	-26.03	+	1.3188	ARKA	+	.2504	ARKA					R SQAR BAR=	.953	DURBIN WAT=	2.270
B			(6.84)	BT1		(2.00)	YT4R					AVER % ERR=	1.87	ESTIMATION=	C-O
CALF	-394.22	+	.8205	CALF	+	2.1797	U.S.	+	3.4312	CALF		R SQAR BAR=	.935	DURBIN WAT=	1.351
B			(10.08)	BT1		(2.43)	TIME		(2.15)	YT4R		AVER % ERR=	1.36	ESTIMATION=	OLS
COLO	-32.60	+	1.0357	COLO	+	.3047	COLO					R SQAR BAR=	.944	DURBIN WAT=	2.163
B			(11.14)	BT1		(4.14)	YT4R					AVER % ERR=	1.15	ESTIMATION=	C-O
CONN	-14.49	+	.8722	CONN	+	-.6082	U.S.	+	.2293	CONN		R SQAR BAR=	.989	DURBIN WAT=	1.393
B			(6.43)	BT1		(2.63)	TIME		(2.11)	YT4R		AVER % ERR=	1.37	ESTIMATION=	C-O
DELA	-6.15	+	1.2328	DELA	+	.3696	DELA					R SQAR BAR=	.930	DURBIN WAT=	2.091
B			(5.50)	BT1		(1.57)	BT1L					AVER % ERR=	2.79	ESTIMATION=	OLS
D.C.			E X O G E N O U S												
FLOR	-105.72	+	.7561	FLOR	+	.4235	FLOR	+	-.5463	U.S.	+ 1.0008	FLOR	R SQAR BAR=	.912	DURBIN WAT=	1.181
B			(5.98)	BT1		(5.03)	BL		(4.12)	TIME	(5.34)	YT4R	AVER % ERR=	1.21	ESTIMATION=	OLS
GEOR	-94.45	+	.7892	GEOR	+	.2245	GEOR	+	-1.1858	U.S.	+ 1.4596	GEOR	R SQAR BAR=	.886	DURBIN WAT=	1.897
B			(3.90)	BT1		(1.30)	BL		(3.25)	TIME	(2.66)	YT4R	AVER % ERR=	2.02	ESTIMATION=	OLS
HAWA	-.72	+	.7115	HAWA	+	.2836	HAWA	+	.0715	U.S.			R SQAR BAR=	.832	DURBIN WAT=	1.599
B			(3.53)	BT1		(1.55)	BL		(1.92)	TIME			AVER % ERR=	2.08	ESTIMATION=	OLS
IDAH	-10.01	+	.9375	IDAH	+	.5941	IDAH	+	.2199	U.S.			R SQAR BAR=	.940	DURBIN WAT=	1.768
B			(2.65)	BT1		(3.13)	BL		(3.04)	TIME			AVER % ERR=	1.99	ESTIMATION=	C-O
ILLI	-150.28	+	.8887	ILLI	+	.2485	ILLI	+	1.0418	U.S.	+ .9068	ILLI	R SQAR BAR=	.989	DURBIN WAT=	1.432
B			(8.14)	BT1		(3.39)	BL		(2.44)	TIME	(1.67)	YT4R	AVER % ERR=	.93	ESTIMATION=	OLS
INDI	5.47	+	.9839	INDI									R SQAR BAR=	.990	DURBIN WAT=	1.761
B			(45.70)	BT1									AVER % ERR=	.88	ESTIMATION=	OLS
IOWA	-3.70	+	.6684	IOWA	+	.4190	IOWA						R SQAR BAR=	.978	DURBIN WAT=	1.462
B			(5.00)	BT1		(3.52)	BL						AVER % ERR=	2.05	ESTIMATION=	OLS
KANS	-4.64	+	1.0841	KANS									R SQAR BAR=	.982	DURBIN WAT=	1.642
B			(9.26)	BT1									AVER % ERR=	2.14	ESTIMATION=	C-O

ESTIMATION FOR: B BIRTHS, LIVE (1) LAG DEPENDENT VARIABLE: BL

KENT	-23.41	+	1.1275 KENT	+	.8604 U.S.			R SQAR BAR=	.978	DURBIN WAT=	2.467
B			(6.63) BT1		(2.33) TIME			AVER % ERR=	1.40	ESTIMATION=	C-0
LOUS	1.27	+	1.1680 LOUS					R SQAR BAR=	.984	DURBIN WAT=	1.969
B			(16.66) BT1					AVER % ERR=	1.04	ESTIMATION=	C-0
MAIN	-2.11	+	.4656 MAIN	+	.6787 MAIN			R SQAR BAR=	.979	DURBIN WAT=	1.942
B			(3.00) BT1		(4.28) BT1L			AVER % ERR=	1.76	ESTIMATION=	OLS
MARY	-53.65	+	1.1871 MARY	+	.4951 MARY			R SQAR BAR=	.916	DURBIN WAT=	1.601
B			(3.43) BT1		(2.94) BL			AVER % ERR=	3.28	ESTIMATION=	OLS
MASS	-154.01	+	.7107 MASS	+	.2883 MASS	+	1.3836 MASS	R SQAR BAR=	.970	DURBIN WAT=	1.606
B			(3.54) BT1		(1.36) BT1L		(1.73) YT4R	AVER % ERR=	1.98	ESTIMATION=	C-0
MICH	34.94	+	.9881 MICH	+	-1.3818 U.S.			R SQAR BAR=	.991	DURBIN WAT=	1.362
B			(8.24) BT1		(2.63) TIME			AVER % ERR=	.95	ESTIMATION=	C-0
MINN	24.22	+	.9846 MINN	+	-1.0019 U.S.			R SQAR BAR=	.988	.DURBIN WAT=	1.820
B			(5.86) BT1		(3.45) TIME			AVER % ERR=	1.42	ESTIMATION=	C-0
MISS	4.99	+	1.1481 MISS					R SQAR BAR=	.968	DURBIN WAT=	1.627
B			(13.92) BT1					AVER % ERR=	1.96	ESTIMATION=	C-0
MISR	3.63	+	.6410 MISR	+	.3143 MISR			R SQAR BAR=	.972	DURBIN WAT=	1.462
B			(6.51) BT1		(2.89) BL			AVER % ERR=	1.53	ESTIMATION=	OLS
MONT	-10.54	+	1.1888 MONT	+	.1009 MONT			R SQAR BAR=	.938	DURBIN WAT=	1.496
B			(14.03) BT1		(2.65) YT4R			AVER % ERR=	3.01	ESTIMATION=	OLS
NEBR	-.11	+	.7383 NEBR	+	.2946 NEBR			R SQAR BAR=	.980	DURBIN WAT=	1.599
B			(4.80) BT1		(2.12) BL			AVER % ERR=	1.59	ESTIMATION=	C-0
NEVA	.68	+	.7793 NEVA	+	.0658 U.S.			R SQAR BAR=	.927	DURBIN WAT=	2.175
B			(9.04) BT1		(4.70) TIME			AVER % ERR=	3.13	ESTIMATION=	OLS
NHAM	-19.98	+	.8258 NHAM	+	.2709 NHAM	+	.1949 NHAM	R SQAR BAR=	.813	DURBIN WAT=	2.216
B			(3.73) BT1		(1.88) BL		(2.02) YT4R	AVER % ERR=	2.67	ESTIMATION=	OLS
NJER	-14.21	+	1.0108 NJER					R SQAR BAR=	.986	DURBIN WAT=	2.305
B			(13.07) BT1					AVER % ERR=	1.25	ESTIMATION=	C-0
NMEX	-15.09	+	1.4501 NMEX	+	.1423 NMEX			R SQAR BAR=	.969	DURBIN WAT=	2.581
B			(9.15) BT1		(1.32) YT4R			AVER % ERR=	2.07	ESTIMATION=	C-0
NYOR	22.40	+	.8691 NYOR					R SQAR BAR=	.982	DURBIN WAT=	1.465
B			(8.95) BT1					AVER % ERR=	1.39	ESTIMATION=	C-0
NCAR	3.82	+	.9373 NCAR					R SQAR BAR=	.983	DURBIN WAT=	1.435
B			(14.61) BT1					AVER % ERR=	1.16	ESTIMATION=	C-0

ESTIMATION FOR: B BIRTHS, LIVE (1) LAG DEPENDENT VARIABLE: BL

NDAK	.24	+	1.1256	NDAK								R SQAR BAR=	.954	DURBIN WAT=	1.900
B			(7.21)	BT1								AVER % ERR=	3.38	ESTIMATION=	C-O
OHIO	6.65	+	.9687	OHIO								R SQAR BAR=	.984	DURBIN WAT=	1.948
B			(35.76)	BT1								AVER % ERR=	1.24	ESTIMATION=	OLS
OKLA	-26.64	+	1.2111	OKLA	+	.7455	U.S.					R SQAR BAR=	.964	DURBIN WAT=	1.694
B			(7.97)	BT1		(3.11)	TIME					AVER % ERR=	1.30	ESTIMATION=	C-O
OREG	-57.67	+	1.1861	OREG	+	.3401	U.S.	+	.4437	OREG		R SQAR BAR=	.895	DURBIN WAT=	1.489
B			(6.14)	BT1		(3.50)	TIME		(2.85)	YT4R		AVER % ERR=	1.39	ESTIMATION=	C-O
PENN	-128.95	+	.6172	PENN	+	.2862	PENN	+	1.3476	PENN		R SQAR BAR=	.994	DURBIN WAT=	1.607
B			(8.17)	BT1		(3.52)	BL		(1.92)	YT4R		AVER % ERR=	1.00	ESTIMATION=	OLS
RHIS	-9.28	+	.3969	RHIS	+	.5887	RHIS	+	.0855	RHIS		R SQAR BAR=	.942	DURBIN WAT=	2.515
B			(4.32)	BT1		(4.82)	BL		(1.15)	YT4R		AVER % ERR=	2.79	ESTIMATION=	OLS
SCAR	4.13	+	.9657	SCAR								R SQAR BAR=	.950	DURBIN WAT=	2.685
B			(6.83)	BT1								AVER % ERR=	2.02	ESTIMATION=	C-O
SDAK	-5.49	+	1.1469	SDAK	+	.2950	SDAK	+	.0803	U.S.		R SQAR BAR=	.962	DURBIN WAT=	1.689
B			(3.85)	BT1		(1.76)	BL		(1.06)	TIME		AVER % ERR=	3.25	ESTIMATION=	OLS
TENN	19.81	+	.7256	TENN								R SQAR BAR=	.937	DURBIN WAT=	1.964
B			(6.47)	BT1								AVER % ERR=	1.41	ESTIMATION=	C-O
TEXA	-33.54	+	1.0082	TEXA	+	2.5219	U.S.					R SQAR BAR=	.946	DURBIN WAT=	2.727
B			(7.20)	BT1		(2.25)	TIME					AVER % ERR=	1.18	ESTIMATION=	C-O
UTAH	-55.66	+	1.2665	UTAH	+	1.5516	U.S.	+	.2898	UTAH		R SQAR BAR=	.948	DURBIN WAT=	1.971
B			(3.59)	BT1		(6.14)	TIME		(1.87)	YT4R		AVER % ERR=	2.04	ESTIMATION=	C-O
VERM	-4.45	+	.7418	VERM	+	-.1186	U.S.	+	.1049	VERM		R SQAR BAR=	.840	DURBIN WAT=	2.036
B			(2.33)	BT1		(3.98)	TIME		(1.92)	YT4R		AVER % ERR=	3.39	ESTIMATION=	OLS
VIRG	-104.27	+	1.0287	VIRG	+	.1330	VIRG	+	-.9044	U.S.	+ 1.1005	VIRG	R SQAR BAR=	.979	DURBIN WAT=	1.440
B			(6.42)	BT1		(1.22)	BL		(4.08)	TIME	(2.62)	YT4R	AVER % ERR=	1.52	ESTIMATION=	OLS
WASH	-70.12	+	1.3182	WASH	+	.4430	WASH					R SQAR BAR=	.977	DURBIN WAT=	2.768
B			(26.54)	BT1		(4.16)	YT4R					AVER % ERR=	1.30	ESTIMATION=	OLS
WVIR	-35.76	+	1.2903	WVIR	+	.4876	U.S.	+	.2320	WVIR		R SQAR BAR=	.984	DURBIN WAT=	1.383
B			(6.25)	BT1		(1.85)	TIME		(1.89)	YT4R		AVER % ERR=	1.51	ESTIMATION=	C-O
WISC	-22.95	+	.9625	WISC	+	-.7964	U.S.	+	.4631	WISC		R SQAR BAR=	.988	DURBIN WAT=	1.690
B			(4.96)	BT1		(2.23)	TIME		(1.20)	YT4R		AVER % ERR=	1.09	ESTIMATION=	C-O
WYOM	-1.36	+	1.2410	WYOM	+	.0329	U.S.					R SQAR BAR=	.881	DURBIN WAT=	1.966
B			(6.82)	BT1		(1.14)	TIME					AVER % ERR=	4.04	ESTIMATION=	OLS

ESTIMATION FOR: D DEATHS (2) LAG DEPENDENT VARIABLE: DL

THE ESTIMATION PERIOD IS FROM 1954 TO 1976

ALAB	5.30	+	.9165	ALAB			R SQAR BAR=	.929	DURBIN WAT=	2.093
D			(8.13)	DT1			AVER % ERR=	1.81	ESTIMATION=	C-O
ALAS			E X O G E N O U S							
ARIS	2.63	+	.7944	ARIZ			R SQAR BAR=	.989	DURBIN WAT=	1.797
D			(44.49)	DT1			AVER % ERR=	2.33	ESTIMATION=	OLS
ARKA	-6.68	+	.9747	ARKA	+	.0137 ARKA	R SQAR BAR=	.930	DURBIN WAT=	1.133
D			(5.58)	DT1		(1.04) P454	AVER % ERR=	2.32	ESTIMATION=	OLS
CALF	-.67	+	.7306	CALF	+	.0099 CALF	R SQAR BAR=	.992	DURBIN WAT=	2.436
D			(7.49)	DT1		(2.83) P454	AVER % ERR=	.99	ESTIMATION=	OLS
COLO	1.40	+	.4296	COLO	+	.0203 COLO	R SQAR BAR=	.936	DURBIN WAT=	2.033
D			(2.85)	DT1		(5.54) P454	AVER % ERR=	2.30	ESTIMATION=	OLS
CONN	-.40	+	.9601	CONN			R SQAR BAR=	.935	DURBIN WAT=	1.613
D			(17.87)	DT1			AVER % ERR=	1.46	ESTIMATION=	OLS
DELA	-.33	+	1.2528	DELA			R SQAR BAR=	.765	DURBIN WAT=	1.926
D			(8.53)	DT1			AVER % ERR=	4.88	ESTIMATION=	OLS
D.C.			E X O G E N O U S							
FLOR	4.12	+	.7573	FLOR			R SQAR BAR=	.996	DURBIN WAT=	2.244
D			(76.90)	DT1			AVER % ERR=	1.46	ESTIMATION=	OLS
GEOR	-3.34	+	1.2739	GEOR			R SQAR BAR=	.887	DURBIN WAT=	2.656
D			(13.15)	DT1			AVER % ERR=	2.51	ESTIMATION=	OLS
HAWA			E X O G E N O U S							
IDAH			E X O G E N O U S							
ILLI	-31.42	+	.9885	ILLI	+	.0158 ILLI	R SQAR BAR=	.971	DURBIN WAT=	1.887
D			(13.18)	DT1		(4.51) P454	AVER % ERR=	.70	ESTIMATION=	OLS
INDI	-15.42	+	.9159	INDI	+	.0202 INDI	R SQAR BAR=	.950	DURBIN WAT=	2.540
D			(8.76)	DT1		(8.00) P454	AVER % ERR=	.89	ESTIMATION=	OLS
IOWA	-2.00	+	.6570	IOWA	+	.3555 IOWA	R SQAR BAR=	.692	DURBIN WAT=	2.383
D			(5.54)	DL		(2.98) DT1	AVER % ERR=	1.91	ESTIMATION=	OLS
KANS	-1.93	+	.6283	KANS	+	.4015 KANS	R SQAR BAR=	.842	DURBIN WAT=	2.031
D			(5.28)	DL		(2.23) DT1	AVER % ERR=	1.42	ESTIMATION=	OLS

ESTIMATION FOR: D DEATHS (2) LAG DEPENDENT VARIABLE: DL

KENT	-3.14	+	.7573 KENT	+	.0182 KENT						R SQAR BAR=	.974	DURBIN WAT=	1.904
D			(9.96) DT1		(5.49) P454						AVER % ERR=	.85	ESTIMATION=	OLS
LOUS	2.88	+	1.0678 LOUS								R SQAR BAR=	.956	DURBIN WAT=	2.127
D			(9.24) DT1								AVER % ERR=	1.58	ESTIMATION=	C-O
MAIN	-.20	+	.6290 MAIN	+	.0196 MAIN						R SQAR BAR=	.283	DURBIN WAT=	1.267
D			(2.72) DT1		(2.08) P454						AVER % ERR=	2.69	ESTIMATION=	OLS
MARY	9.19	+	.7935 MARY								R SQAR BAR=	.946	DURBIN WAT=	2.603
D			(8.74) DT1								AVER % ERR=	1.65	ESTIMATION=	C-O
MASS	6.01	+	.4051 MASS	+	.0137 MASS	+	.1795 MASS				R SQAR BAR=	.366	DURBIN WAT=	1.901
D			(1.68) DT1		(.92) P454		(.83) DL				AVER % ERR=	2.80	ESTIMATION=	OLS
MICH	4.65	+	.5758 MICH	+	.0170 MICH						R SQAR BAR=	.986	DURBIN WAT=	1.962
D			(10.14) DT1		(7.78) P454						AVER % ERR=	.58	ESTIMATION=	OLS
MINN	1.60	+	.4390 MINN	+	.4426 MINN						R SQAR BAR=	.891	DURBIN WAT=	1.520
D			(3.85) DL		(4.61) DT1						AVER % ERR=	1.46	ESTIMATION=	OLS
MISS	3.62	+	.5083 MISS	+	.3712 MISS						R SQAR BAR=	.762	DURBIN WAT=	1.890
D			(3.06) DL		(2.30) DT1						AVER % ERR=	2.55	ESTIMATION=	OLS
MISR	-9.55	+	.7471 MISR	+	.0154 MISR	+	.0914 MISR	+	.0722 U.S.		R SQAR BAR=	.900	DURBIN WAT=	2.334
D			(4.65) DT1		(.60) P454		(.52) DL		(1.03) TIME		AVER % ERR=	1.30	ESTIMATION=	OLS
MONT			E X O G E N O U S											
NEBR	4.02	+	.7264 NEBR								R SQAR BAR=	.566	DURBIN WAT=	2.767
D			(5.45) DL								AVER % ERR=	2.87	ESTIMATION=	OLS
NEVA			E X O G E N O U S											
NHAM			E X O G E N O U S											
NJER	10.15	+	.8568 NJER								R SQAR BAR=	.948	DURBIN WAT=	1.210
D			(20.06) DT1								AVER % ERR=	1.59	ESTIMATION=	OLS
NMEX	2.00	+	.7911 NMEX								R SQAR BAR=	.854	DURBIN WAT=	1.774
D			(11.38) DT1								AVER % ERR=	4.01	ESTIMATION=	OLS
NYOR	73.11	+	.6013 NYOR								R SQAR BAR=	.888	DURBIN WAT=	1.532
D			(5.18) DT1								AVER % ERR=	1.04	ESTIMATION=	C-O
NCAR	5.59	+	.9846 NCAR								R SQAR BAR=	.980	DURBIN WAT=	1.877
D			(12.23) DT1								AVER % ERR=	1.31	ESTIMATION=	C-O

ESTIMATION FOR: D DEATHS (2) LAG DEPENDENT VARIABLE: DL

NDAK	-1.26	+	.3453	NDAK	+	.8046	NDAK	R SQAR BAR=	.687	DURBIN WAT=	2.009
D			(2.11)	DL		(3.43)	DT1	AVER % ERR=	3.18	ESTIMATION=	OLS
OHIO	-39.08	+	1.0607	OHIO	+	.0176	OHIO	R SQAR BAR=	.976	DURBIN WAT=	1.628
D			(13.69)	DT1		(9.78)	P454	AVER % ERR=	.67	ESTIMATION=	OLS
OKLA	-3.30	+	1.0255	OKLA				R SQAR BAR=	.958	DURBIN WAT=	1.110
D			(6.35)	DT1				AVER % ERR=	1.30	ESTIMATION=	C-O
OREG	-.87	+	.9426	OREG				R SQAR BAR=	.919	DURBIN WAT=	2.340
D			(15.84)	DT1				AVER % ERR=	2.22	ESTIMATION=	OLS
PENN	8.71	+	.9679	PENN				R SQAR BAR=	.962	DURBIN WAT=	1.182
D			(23.63)	DT1				AVER % ERR=	.65	ESTIMATION=	OLS
RHIS	1.05	+	.8560	RHIS				R SQAR BAR=	.571	DURBIN WAT=	2.795
D			(5.50)	DT1				AVER % ERR=	3.71	ESTIMATION=	OLS
SCAR	7.91	+	.8072	SCAR				R SQAR BAR=	.920	DURBIN WAT=	1.716
D			(3.77)	DT1				AVER % ERR=	1.93	ESTIMATION=	C-O
SDAK			E X O G E N O U S								
TENN	-3.52	+	.3000	TENN	+	.8517	TENN	R SQAR BAR=	.949	DURBIN WAT=	2.197
D			(1.99)	DL		(4.55)	DT1	AVER % ERR=	2.02	ESTIMATION=	OLS
TEXA	-1.82	+	.8671	TEXA	+	.0070	TEXA	R SQAR BAR=	.991	DURBIN WAT=	1.552
D			(7.03)	DT1		(1.11)	P454	AVER % ERR=	1.00	ESTIMATION=	OLS
UTAH	-.01	+	.9935	UTAH				R SQAR BAR=	.878	DURBIN WAT=	1.888
D			(12.62)	DT1				AVER % ERR=	4.02	ESTIMATION=	OLS
VERM			E X O G E N O U S								
VIRG	3.62	+	.1871	VIRG	+	.8069	VIRG	R SQAR BAR=	.958	DURBIN WAT=	1.550
D			(1.05)	DL		(4.10)	DT1	AVER % ERR=	1.52	ESTIMATION=	OLS
WASH	-3.84	+	.7541	WASH	+	.0153	WASH	R SQAR BAR=	.956	DURBIN WAT=	1.862
D			(4.24)	DT1		(3.16)	P454	AVER % ERR=	1.40	ESTIMATION=	OLS
WVIR	-1.17	+	1.1330	WVIR				R SQAR BAR=	.851	DURBIN WAT=	1.625
D			(3.78)	DT1				AVER % ERR=	1.79	ESTIMATION=	C-O
WISC	2.78	+	.3953	WISC	+	.0225	WISC	R SQAR BAR=	.950	DURBIN WAT=	1.535
D			(5.33)	DT1		(4.94)	P454	AVER % ERR=	1.00	ESTIMATION=	OLS
WYOM	-.04	+	1.0581	WYOM				R SQAR BAR=	.472	DURBIN WAT=	1.150
D			(4.54)	DT1				AVER % ERR=	5.08	ESTIMATION=	OLS

ESTIMATION FOR: EAFF EMPLOYMENT, AGRICULTURE, FORESTRY, FISHERIES & OTHER (3) LAG DEPENDENT VARIABLE: EAFL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	-2.68	+	.0237	ALAB	+	.8854	ALAB				R SQAR BAR=	.982	DURBIN WAT=	2.001
EAFF			(1.29)	XAFF		(32.80)	EAFL				AVER % ERR=	2.32	ESTIMATION=	OLS
ALAS			E X O G E N O U S											
ARIS			E X O G E N O U S											
ARKA	-11.39	+	.0265	ARKA	+	8.5540	U.S.				R SQAR BAR=	.916	DURBIN WAT=	.784
EAFF			(1.00)	XAFF		(12.09)	EXAF				AVER % ERR=	5.15	ESTIMATION=	OLS
CALF	242.10	+	.0369	CALF	+	-6.4517	U.S.				R SQAR BAR=	.655	DURBIN WAT=	.981
EAFF			(3.66)	XAFF		(6.22)	TIME				AVER % ERR=	5.87	ESTIMATION=	OLS
COLO	52.97	+	.0152	COLO	+	-.9028	U.S.				R SQAR BAR=	.872	DURBIN WAT=	1.417
EAFF			(1.94)	XAFF		(6.33)	TIME				AVER % ERR=	3.58	ESTIMATION=	C-O
CONN	11.43	+	.0045	CONN							R SQAR BAR=	.944	DURBIN WAT=	1.892
EAFF			(.29)	XAFF							AVER % ERR=	5.01	ESTIMATION=	C-O
DELA	11.36	+	.0095	DELA	+	-.2872	U.S.				R SQAR BAR=	.959	DURBIN WAT=	2.241
EAFF			(1.08)	XAFF		(18.12)	TIME				AVER % ERR=	4.01	ESTIMATION=	OLS
D.C.			E X O G E N O U S											
FLOR			E X O G E N O U S											
GEOR	-10.19	+	.0139	GEOR	+	.7777	GEOR	+	1.5513	U.S.	R SQAR BAR=	.963	DURBIN WAT=	2.423
EAFF			(.48)	XAFF		(3.33)	EAFL		(.63)	EXAF	AVER % ERR=	3.98	ESTIMATION=	OLS
HAWA	2.10	+	.4953	HAWA	+	.6336	U.S.				R SQAR BAR=	.915	DURBIN WAT=	1.614
EAFF			(2.35)	EAFL		(2.49)	EXAF				AVER % ERR=	4.15	ESTIMATION=	OLS
IDAH	-3.35	+	.0056	IDAH	+	.9993	IDAH				R SQAR BAR=	.917	DURBIN WAT=	1.886
EAFF			(.92)	XAFF		(10.71)	EAFL				AVER % ERR=	3.64	ESTIMATION=	OLS
ILLI	24.24	+	.0103	ILLI	+	9.0008	U.S.				R SQAR BAR=	.950	DURBIN WAT=	1.185
EAFF			(1.43)	XAFF		(18.61)	EXAF				AVER % ERR=	3.28	ESTIMATION=	OLS
INDI	229.35	+	.0081	INDI	+	-6.0821	U.S.				R SQAR BAR=	.918	DURBIN WAT=	.410
EAFF			(.56)	XAFF		(11.19)	TIME				AVER % ERR=	6.24	ESTIMATION=	OLS
IOWA			E X O G E N O U S											
KANS	24.80	+	.0057	KANS	+	5.3406	U.S.				R SQAR BAR=	.967	DURBIN WAT=	2.079
EAFF			(1.14)	XAFF		(21.39)	EXAF				AVER % ERR=	2.57	ESTIMATION=	OLS

ESTIMATION FOR: EAFF EMPLOYMENT, AGRICULTURE, FORESTRY, FISHERIES & OTHER (3) LAG DEPENDENT VARIABLE: EAFL

KENT			E X O G E N O U S											
LOUS	-19.79	+	.0350	LOUS	+	.6658	LOUS	+	2.2142	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.510
EAFF			(2.55)	XAFF		(3.82)	EAFL		(1.74)	EXAF	AVER % ERR=	2.88	ESTIMATION=	OLS
MAIN	-2.72	+	.0274	MAIN	+	.8117	MAIN				R SQAR BAR=	.846	DURBIN WAT=	2.352
EAFF			(2.08)	XAFF		(9.85)	EAFL				AVER % ERR=	7.74	ESTIMATION=	OLS
MARY			E X O G E N O U S											
MASS			E X O G E N O U S											
MICH	2.32	+	.0162	MICH	+	7.2527	U.S.				R SQAR BAR=	.974	DURBIN WAT=	1.870
EAFF			(1.04)	XAFF		(26.47)	EXAF				AVER % ERR=	2.83	ESTIMATION=	OLS
MINN			E X O G E N O U S											
MISS	-8.79	+	.0246	MISS	+	.9057	MISS				R SQAR BAR=	.980	DURBIN WAT=	2.369
EAFF			(1.44)	XAFF		(31.05)	EAFL				AVER % ERR=	4.26	ESTIMATION=	OLS
MISR	17.54	+	.6992	MISR	+	2.2827	U.S.				R SQAR BAR=	.978	DURBIN WAT=	1.971
EAFF			(2.93)	EAFL		(.95)	EXAF				AVER % ERR=	2.27	ESTIMATION=	OLS
MONT	13.73	+	.0051	MONT	+	1.3701	U.S.				R SQAR BAR=	.907	DURBIN WAT=	1.249
EAFF			(1.08)	XAFF		(13.90)	EXAF				AVER % ERR=	3.65	ESTIMATION=	OLS
NEBR			E X O G E N O U S											
NEVA	3.45	+	.0098	NEVA	+	-.0222	U.S.				R SQAR BAR=	.135	DURBIN WAT=	1.554
EAFF			(1.97)	XAFF		(1.74)	TIME				AVER % ERR=	6.64	ESTIMATION=	OLS
NHAM	-.34	+	.0404	NHAM	+	.3950	NHAM	+	.1022	U.S.	R SQAR BAR=	.975	DURBIN WAT=	1.614
EAFF			(3.16)	XAFF		(2.34)	EAFL		(1.16)	EXAF	AVER % ERR=	4.17	ESTIMATION=	OLS
NJER	-5.73	+	.0294	NJER	+	.8254	NJER				R SQAR BAR=	.965	DURBIN WAT=	2.371
EAFF			(1.52)	XAFF		(12.12)	EAFL				AVER % ERR=	4.78	ESTIMATION=	OLS
NMEX			E X O G E N O U S											
NYOR			E X O G E N O U S											
NCAR	351.68	+	.0579	NCAR	+	-10.9570	U.S.				R SQAR BAR=	.962	DURBIN WAT=	.977
EAFF			(1.96)	XAFF		(21.05)	TIME				AVER % ERR=	4.45	ESTIMATION=	OLS

ESTIMATION FOR: EAFF EMPLOYMENT, AGRICULTURE, FORESTRY, FISHERIES & OTHER (3) LAG DEPENDENT VARIABLE: EAFL

NDAK			E X O G E N O U S											
OHIO	197.75	+	.0452	OHIO	+	-5.7271	U.S.				R SQAR BAR=	.891	DURBIN WAT=	.575
EAFF			(1.97)	XAFF		(12.24)	TIME				AVER % ERR=	6.19	ESTIMATION=	OLS
OKLA	5.64	+	.0106	OKLA	+	.8606	OKLA				R SQAR BAR=	.936	DURBIN WAT=	2.071
EAFF			(1.11)	XAFF		(17.18)	EAFL				AVER % ERR=	3.01	ESTIMATION=	OLS
OREG	66.89	+	.0247	OREG	+	-1.3750	U.S.				R SQAR BAR=	.882	DURBIN WAT=	1.569
EAFF			(2.30)	XAFF		(12.26)	TIME				AVER % ERR=	4.27	ESTIMATION=	OLS
PENN	-32.72	+	.0399	PENN	+	7.2502	U.S.				R SQAR BAR=	.947	DURBIN WAT=	1.574
EAFF			(2.89)	XAFF		(18.97)	EXAF				AVER % ERR=	4.89	ESTIMATION=	OLS
RHIS	3.10	+	.0041	RHIS	+	-.0574	U.S.				R SQAR BAR=	.696	DURBIN WAT=	2.146
EAFF			(.32)	XAFF		(4.65)	TIME				AVER % ERR=	6.73	ESTIMATION=	OLS
SCAR	-111.04	+	.1477	SCAR	+	11.3989	U.S.				R SQAR BAR=	.968	DURBIN WAT=	1.582
EAFF			(2.73)	XAFF		(23.87)	EXAF				AVER % ERR=	6.04	ESTIMATION=	OLS
SDAK	-3.00	+	.0042	SDAK	+	.9782	SDAK				R SQAR BAR=	.981	DURBIN WAT=	2.342
EAFF			(1.74)	XAFF		(31.73)	EAFL				AVER % ERR=	1.93	ESTIMATION=	OLS
TENN	-3.16	+	.0358	TENN	+	.5898	TENN	+	3.5395	U.S.	R SQAR BAR=	.962	DURBIN WAT=	2.216
EAFF			(1.01)	XAFF		(1.67)	EAFL		(.92)	EXAF	AVER % ERR=	3.49	ESTIMATION=	OLS
TEXA	23.22	+	.0016	TEXA	+	.7115	TEXA	+	3.8645	U.S.	R SQAR BAR=	.967	DURBIN WAT=	1.923
EAFF			(.15)	XAFF		(2.70)	EAFL		(.83)	EXAF	AVER % ERR=	2.75	ESTIMATION=	OLS
UTAH	1.25	+	.0034	UTAH	+	.3500	UTAH	+	.8077	U.S.	R SQAR BAR=	.985	DURBIN WAT=	2.437
EAFF			(.47)	XAFF		(1.41)	EAFL		(2.45)	EXAF	AVER % ERR=	2.17	ESTIMATION=	OLS
VERM			E X O G E N O U S											
VIRG	-6.03	+	.0278	VIRG	+	.6136	VIRG	+	2.2796	U.S.	R SQAR BAR=	.983	DURBIN WAT=	2.010
EAFF			(1.98)	XAFF		(3.00)	EAFL		(1.39)	EXAF	AVER % ERR=	2.53	ESTIMATION=	OLS
WASH	1.37	+	.0126	WASH	+	.4815	WASH	+	1.9539	U.S.	R SQAR BAR=	.957	DURBIN WAT=	1.979
EAFF			(1.97)	XAFF		(2.29)	EAFL		(2.33)	EXAF	AVER % ERR=	2.57	ESTIMATION=	OLS
WVIR	-.15	+	.0829	WVIR	+	.7490	WVIR				R SQAR BAR=	.990	DURBIN WAT=	2.399
EAFF			(3.63)	XAFF		(14.69)	EAFL				AVER % ERR=	2.53	ESTIMATION=	OLS
WISC			E X O G E N O U S											
WYOM			E X O G E N O U S											

ESTIMATION FOR: EMIN EMPLOYMENT, MINING (4) LAG DEPENDENT VARIABLE: EMIL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	.75	+	.0367	ALAB	+	.6514	ALAB	+	-.2083	U.S.	R SQAR BAR=	.917	DURBIN WAT=	1.583
EMIN			(3.42)	XMIN		(4.37)	EMIL		(2.10)	TIME	AVER % ERR=	4.93	ESTIMATION=	OLS
ALAS	-2.62	+	.0091	ALAS	+	.8128	U.S.				R SQAR BAR=	.962	DURBIN WAT=	2.279
EMIN			(10.31)	XMIN		(2.51)	EXMI				AVER % ERR=	5.33	ESTIMATION=	C-O
ARIS	-1.90	+	.0230	ARIS	+	.8122	ARIZ				R SQAR BAR=	.888	DURBIN WAT=	1.716
EMIN			(3.29)	XMIN		(9.25)	EMIL				AVER % ERR=	6.32	ESTIMATION=	OLS
ARKA	-1.17	+	.0287	ARKA	+	.1893	ARKA	+	.5526	U.S.	R SQAR BAR=	.974	DURBIN WAT=	1.697
EMIN			(5.84)	XMIN		(1.56)	EMIL		(5.25)	EXMI	AVER % ERR=	1.83	ESTIMATION=	OLS
CALF	.60	+	.0010	CALF	+	.8977	CALF	+	.0842	U.S.	R SQAR BAR=	.719	DURBIN WAT=	1.422
EMIN			(.39)	XMIN		(6.34)	EMIL		(1.58)	TIME	AVER % ERR=	2.63	ESTIMATION=	OLS
COLO	-2.57	+	.0142	COLO	+	.9181	COLO				R SQAR BAR=	.846	DURBIN WAT=	1.022
EMIN			(3.19)	XMIN		(7.96)	EMIL				AVER % ERR=	4.23	ESTIMATION=	OLS
CONN	.01	+	.0119	CONN	+	.7434	CONN				R SQAR BAR=	.854	DURBIN WAT=	2.033
EMIN			(1.99)	XMIN		(5.95)	EMIL				AVER % ERR=	4.67	ESTIMATION=	OLS
DELA			E X O G E N O U S											
D.C.			E X O G E N O U S											
FLOR	2.36	+	.0053	FLOR	+	.6296	FLOR				R SQAR BAR=	.775	DURBIN WAT=	1.432
EMIN			(2.21)	XMIN		(4.98)	EMIL				AVER % ERR=	4.15	ESTIMATION=	OLS
GEOR	2.10	+	.0099	GEOR	+	.4398	GEOR	+	.0312	U.S.	R SQAR BAR=	.896	DURBIN WAT=	1.976
EMIN			(2.56)	XMIN		(2.35)	EMIL		(1.20)	TIME	AVER % ERR=	3.24	ESTIMATION=	OLS
HAWA			E X O G E N O U S											
IDAH	.24	+	.0330	IDAH	+	.5880	IDAH				R SQAR BAR=	.529	DURBIN WAT=	1.455
EMIN			(2.00)	XMIN		(4.05)	EMIL				AVER % ERR=	7.52	ESTIMATION=	OLS
ILLI			E X O G E N O U S											
INDI			E X O G E N O U S											
IOWA	1.95	+	.0090	IOWA	+	.4244	IOWA	+	-.0303	U.S.	R SQAR BAR=	.682	DURBIN WAT=	1.793
EMIN			(1.38)	XMIN		(2.17)	EMIL		(2.88)	TIME	AVER % ERR=	3.24	ESTIMATION=	OLS
KANS	-1.71	+	.0048	KANS	+	.6362	KANS	+	1.0924	U.S.	R SQAR BAR=	.986	DURBIN WAT=	2.005
EMIN			(2.70)	XMIN		(7.20)	EMIL		(2.98)	EXMI	AVER % ERR=	2.03	ESTIMATION=	OLS

ESTIMATION FOR: EMIN EMPLOYMENT, MINING (4) LAG DEPENDENT VARIABLE: EMIL

KENT	11.37	+	.0418	KENT	+	.5371	KENT	+	-.9027	U.S.	R SQAR BAR=	.876	DURBIN WAT= 1.562
EMIN			(4.22)	XMIN		(3.82)	EMIL		(3.17)	TIME	AVER % ERR=	4.72	ESTIMATION= OLS
LOUS			E X O G E N O U S										
MAIN			E X O G E N O U S										
MARY			E X O G E N O U S										
MASS	.37	+	.0159	MASS	+	.0299	U.S.				R SQAR BAR=	.231	DURBIN WAT= .799
EMIN			(2.49)	XMIN		(1.01)	EXMI				AVER % ERR=	6.43	ESTIMATION= OLS
MICH	-8.72	+	.0368	MICH	+	.9616	MICH	+	.0919	U.S.	R SQAR BAR=	.759	DURBIN WAT= 1.970
EMIN			(2.77)	XMIN		(4.79)	EMIL		(1.43)	TIME	AVER % ERR=	3.99	ESTIMATION= OLS
MINN	4.22	+	.0089	MINN	+	.5283	MINN				R SQAR BAR=	.492	DURBIN WAT= 1.430
EMIN			(1.71)	XMIN		(3.01)	EMIL				AVER % ERR=	7.03	ESTIMATION= OLS
MISS	3.39	+	.0153	MISS	+	.0410	U.S.				R SQAR BAR=	.426	DURBIN WAT= .649
EMIN			(2.81)	XMIN		(2.19)	TIME				AVER % ERR=	5.70	ESTIMATION= OLS
MISR	4.83	+	.0162	MISR	+	.4239	U.S.				R SQAR BAR=	.246	DURBIN WAT= .740
EMIN			(2.67)	XMIN		(1.65)	EXMI				AVER % ERR=	5.02	ESTIMATION= OLS
MONT	-4.29	+	.0551	MONT	+	.1870	MONT	+	.9633	U.S.	R SQAR BAR=	.948	DURBIN WAT= 1.285
EMIN			(7.82)	XMIN		(1.64)	EMIL		(4.34)	EXMI	AVER % ERR=	3.43	ESTIMATION= OLS
NEBR	.40	+	.0169	NEBR	+	.1868	U.S.				R SQAR BAR=	.925	DURBIN WAT= 1.218
EMIN			(6.38)	XMIN		(3.91)	EXMI				AVER % ERR=	4.74	ESTIMATION= OLS
NEVA	1.24	+	.0227	NEVA	+	.4980	NEVA	+	-.0294	U.S.	R SQAR BAR=	.501	DURBIN WAT= 1.365
EMIN			(2.31)	XMIN		(3.46)	EMIL		(1.33)	TIME	AVER % ERR=	7.84	ESTIMATION= OLS
NHAM			E X O G E N O U S										
NJER	-.37	+	.0184	NJER	+	.3109	NJER	+	.4030	U.S.	R SQAR BAR=	.810	DURBIN WAT= 1.345
EMIN			(3.28)	XMIN		(1.53)	EMIL		(3.18)	EXMI	AVER % ERR=	4.42	ESTIMATION= OLS
NMEX	-2.32	+	.0190	NMEX	+	2.1485	U.S.				R SQAR BAR=	.476	DURBIN WAT= .416
EMIN			(2.15)	XMIN		(4.00)	EXMI				AVER % ERR=	4.76	ESTIMATION= OLS
NYOR	1.57	+	.0086	NYOR	+	.5552	NYOR	+	.2221	U.S.	R SQAR BAR=	.751	DURBIN WAT= 1.465
EMIN			(2.07)	XMIN		(3.02)	EMIL		(1.46)	EXMI	AVER % ERR=	2.88	ESTIMATION= OLS
NCAR	-.44	+	.0225	NCAR	+	.6687	NCAR	+	.1605	U.S.	R SQAR BAR=	.768	DURBIN WAT= 1.324
EMIN			(2.07)	XMIN		(4.84)	EMIL		(1.08)	EXMI	AVER % ERR=	4.86	ESTIMATION= OLS

ESTIMATION FOR: EMIN EMPLOYMENT, MINING (4) LAG DEPENDENT VARIABLE: EMIL

NDAK	-.16	+	.0171	NDAK	+	.2471	NDAK	+	.1056	U.S.	R SQAR BAR=	.833	DURBIN WAT=	2.471
EMIN			(4.75)	XMIN		(1.65)	EMIL		(2.24)	EXMI	AVER % ERR=	4.50	ESTIMATION=	OLS
OHIO	-9.14	+	.0220	OHIO	+	.9447	OHIO	+	1.0130	U.S.	R SQAR BAR=	.902	DURBIN WAT=	1.879
EMIN			(1.68)	XMIN		(5.24)	EMIL		(1.03)	EXMI	AVER % ERR=	2.39	ESTIMATION=	OLS
OKLA	-.96	+	.0213	OKLA	+	5.9770	U.S.				R SQAR BAR=	.932	DURBIN WAT=	1.068
EMIN			(5.15)	XMIN		(15.90)	EXMI				AVER % ERR=	2.18	ESTIMATION=	OLS
OREG	.25	+	.0189	OREG	+	.7298	OREG	+	-.0128	U.S.	R SQAR BAR=	.758	DURBIN WAT=	1.829
EMIN			(3.22)	XMIN		(4.34)	EMIL		(1.56)	TIME	AVER % ERR=	4.87	ESTIMATION=	OLS
PENN	-30.75	+	.0484	PENN	+	.6310	PENN	+	3.7900	U.S.	R SQAR BAR=	.976	DURBIN WAT=	1.276
EMIN			(3.07)	XMIN		(3.52)	EMIL		(1.04)	EXMI	AVER % ERR=	3.27	ESTIMATION=	OLS
RHIS			E X O G E N O U S											
SCAR	.65	+	.0080	SCAR	+	.5068	SCAR				R SQAR BAR=	.636	DURBIN WAT=	2.239
EMIN			(2.05)	XMIN		(3.73)	EMIL				AVER % ERR=	2.77	ESTIMATION=	OLS
SDAK	1.98	+	.0067	SDAK	+	.0815	U.S.				R SQAR BAR=	.550	DURBIN WAT=	.976
EMIN			(1.16)	XMIN		(5.14)	EXMI				AVER % ERR=	1.92	ESTIMATION=	OLS
TENN	-3.46	+	.0366	TENN	+	.6066	TENN	+	.6480	U.S.	R SQAR BAR=	.884	DURBIN WAT=	1.704
EMIN			(3.59)	XMIN		(3.38)	EMIL		(2.20)	EXMI	AVER % ERR=	2.85	ESTIMATION=	OLS
TEXA	-56.67	+	.0179	TEXA	+	.9495	TEXA	+	-.9867	U.S.	R SQAR BAR=	.920	DURBIN WAT=	2.338
EMIN			(3.99)	XMIN		(9.69)	EMIL		(2.12)	TIME	AVER % ERR=	2.27	ESTIMATION=	OLS
UTAH	1.28	+	.0107	UTAH	+	.7001	UTAH				R SQAR BAR=	.529	DURBIN WAT=	1.354
EMIN			(1.02)	XMIN		(4.62)	EMIL				AVER % ERR=	6.30	ESTIMATION=	OLS
VERM	1.39	+	.0132	VERM	+	-.0277	U.S.				R SQAR BAR=	.936	DURBIN WAT=	2.050
EMIN			(2.69)	XMIN		(16.09)	TIME				AVER % ERR=	3.09	ESTIMATION=	OLS
VIRG	-.54	+	.0232	VIRG	+	.9759	VIRG	+	-.2081	U.S.	R SQAR BAR=	.827	DURBIN WAT=	1.318
EMIN			(2.50)	XMIN		(8.07)	EMIL		(1.79)	TIME	AVER % ERR=	3.43	ESTIMATION=	OLS
WASH	.23	+	.0101	WASH	+	.7360	WASH				R SQAR BAR=	.657	DURBIN WAT=	2.398
EMIN			(2.37)	XMIN		(6.27)	EMIL				AVER % ERR=	4.60	ESTIMATION=	OLS
WVIR	-46.36	+	.0531	WVIR	+	.4374	WVIR	+	8.6911	U.S.	R SQAR BAR=	.890	DURBIN WAT=	1.080
EMIN			(3.20)	XMIN		(1.78)	EMIL		(2.01)	EXMI	AVER % ERR=	5.16	ESTIMATION=	OLS
WISC	-.43	+	.0212	WISC	+	.3412	WISC	+	.3917	U.S.	R SQAR BAR=	.893	DURBIN WAT=	1.685
EMIN			(1.59)	XMIN		(1.24)	EMIL		(2.02)	EXMI	AVER % ERR=	4.92	ESTIMATION=	OLS
WYOM	-7.15	+	.0149	WYOM	+	.8797	WYOM	+	.5915	U.S.	R SQAR BAR=	.956	DURBIN WAT=	1.240
EMIN			(3.03)	XMIN		(7.00)	EMIL		(1.84)	EXMI	AVER % ERR=	4.17	ESTIMATION=	OLS

ESTIMATION FOR: ECC EMPLOYMENT, CONTRACT CONSTRUCTION (5) LAG DEPENDENT VARIABLE: ECCL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	34.19	+	.0583	ALAB	+	.2058	ALAB	+	-2.4339	ALAB		R SQAR BAR=	.955	DURBIN WAT=	1.107
ECC			(6.23)	XCC		(1.64)	ECCL		(2.12)	MCCM		AVER % ERR=	2.69	ESTIMATION=	C-O
ALAS			E X O G E N O U S												
ARIS	18.43	+	.0533	ARIS	+	.1064	ARIZ	+	-1.1482	ARIZ		R SQAR BAR=	.989	DURBIN WAT=	1.467
ECC			(18.84)	XCC		(2.32)	ECCL		(5.74)	MCCM		AVER % ERR=	2.42	ESTIMATION=	OLS
ARKA	14.14	+	.0426	ARKA	+	.4273	ARKA	+	-1.0331	ARKA		R SQAR BAR=	.930	DURBIN WAT=	1.224
ECC			(4.25)	XCC		(3.48)	ECCL		(2.88)	MCCM		AVER % ERR=	4.03	ESTIMATION=	OLS
CALF	233.12	+	.0386	CALF	+	-8.0823	CALF					R SQAR BAR=	.693	DURBIN WAT=	1.524
ECC			(4.38)	XCC		(2.36)	MCCM					AVER % ERR=	2.38	ESTIMATION=	C-O
COLO	-47.03	+	.0710	COLO	+	.2373	COLO	+	4.8638	U.S.		R SQAR BAR=	.967	DURBIN WAT=	1.749
ECC			(8.12)	XCC		(2.48)	ECCL		(4.15)	EXCC		AVER % ERR=	3.96	ESTIMATION=	OLS
CONN	-8.03	+	.0291	CONN	+	.7542	CONN	+	-.3438	U.S.		R SQAR BAR=	.849	DURBIN WAT=	1.226
ECC			(5.70)	XCC		(5.20)	ECCL		(3.29)	TIME		AVER % ERR=	3.20	ESTIMATION=	OLS
DELA	9.90	+	.0794	DELA	+	.0897	DELA	+	-.9031	DELA		R SQAR BAR=	.940	DURBIN WAT=	1.800
ECC			(13.70)	XCC		(1.36)	ECCL		(6.40)	MCCM		AVER % ERR=	3.00	ESTIMATION=	OLS
D.C.	12.24	+	.0542	D.C.	+	-.5006	D.C.					R SQAR BAR=	.940	DURBIN WAT=	1.381
ECC			(15.59)	XCC		(3.00)	MCCM					AVER % ERR=	2.09	ESTIMATION=	OLS
FLOR	-17.17	+	.0764	FLOR	+	.2951	FLOR	+	-2.1358	U.S.		R SQAR BAR=	.958	DURBIN WAT=	1.044
ECC			(10.22)	XCC		(3.45)	ECCL		(2.79)	TIME		AVER % ERR=	4.96	ESTIMATION=	OLS
GEOR	33.28	+	.0786	GEOR	+	-2.7703	GEOR					R SQAR BAR=	.965	DURBIN WAT=	1.344
ECC			(10.85)	XCC		(1.47)	MCCM					AVER % ERR=	3.54	ESTIMATION=	C-O
HAWA	.29	+	.0321	HAWA	+	.4710	HAWA					R SQAR BAR=	.906	DURBIN WAT=	.979
ECC			(4.59)	XCC		(4.44)	ECCL					AVER % ERR=	4.96	ESTIMATION=	OLS
IDAH			E X O G E N O U S												
ILLI	59.32	+	.0296	ILLI	+	.5481	ILLI	+	-4.1593	ILLI		R SQAR BAR=	.854	DURBIN WAT=	1.547
ECC			(4.94)	XCC		(5.66)	ECCL		(3.22)	MCCM		AVER % ERR=	1.80	ESTIMATION=	OLS
INDI	-50.41	+	.0343	INDI	+	.5566	INDI	+	6.3294	U.S.		R SQAR BAR=	.895	DURBIN WAT=	1.324
ECC			(4.93)	XCC		(6.08)	ECCL		(2.82)	EXCC		AVER % ERR=	3.07	ESTIMATION=	OLS
IOWA	-12.71	+	.0323	IOWA	+	.3900	IOWA	+	2.7853	U.S.		R SQAR BAR=	.839	DURBIN WAT=	1.321
ECC			(4.68)	XCC		(3.01)	ECCL		(3.16)	EXCC		AVER % ERR=	3.02	ESTIMATION=	OLS
KANS	-22.33	+	.0543	KANS	+	.2171	KANS	+	3.6397	U.S.		R SQAR BAR=	.891	DURBIN WAT=	1.776
ECC			(9.96)	XCC		(1.88)	ECCL		(7.37)	EXCC		AVER % ERR=	1.95	ESTIMATION=	OLS

ESTIMATION FOR: ECC EMPLOYMENT. CONTRACT CONSTRUCTION (5) LAG DEPENDENT VARIABLE: ECCL

KENT	23.92	+	.0445	KENT	+	.4240	KENT	+	-1.8425	KENT	R SQAR BAR=	.981	DURBIN WAT=	1.599
ECC			(10.69)	XCC		(7.55)	ECCL		(5.34)	MCCM	AVER % ERR=	1.88	ESTIMATION=	OLS
LOUS	66.38	+	.0465	LOUS	+	.1683	LOUS	+	-3.6857	LOUS	R SQAR BAR=	.975	DURBIN WAT=	1.159
ECC			(7.85)	XCC		(1.40)	ECCL		(3.59)	MCCM	AVER % ERR=	2.45	ESTIMATION=	C-O
MAIN	3.78	+	.0432	MAIN	+	.5117	MAIN	+	-.3652	MAIN	R SQAR BAR=	.958	DURBIN WAT=	1.849
ECC			(8.55)	XCC		(6.19)	ECCL		(2.17)	MCCM	AVER % ERR=	2.13	ESTIMATION=	OLS
MARY	15.04	+	.0662	MARY	+	.2380	MARY	+	-2.0014	MARY	R SQAR BAR=	.985	DURBIN WAT=	1.309
ECC			(11.25)	XCC		(3.05)	ECCL		(1.76)	MCCM	AVER % ERR=	1.74	ESTIMATION=	C-O
MASS	.28	+	.0269	MASS	+	.6475	MASS	+	-.4257	U.S.	R SQAR BAR=	.942	DURBIN WAT=	1.643
ECC			(7.64)	XCC		(6.08)	ECCL		(2.67)	TIME	AVER % ERR=	2.21	ESTIMATION=	OLS
MICH	37.82	+	.0366	MICH	+	.4304	MICH	+	-2.7861	MICH	R SQAR BAR=	.861	DURBIN WAT=	1.019
ECC			(4.56)	XCC		(4.02)	ECCL		(1.87)	MCCM	AVER % ERR=	3.60	ESTIMATION=	OLS
MINN	7.14	+	.0208	MINN	+	.7406	MINN	+	-.7156	MINN	R SQAR BAR=	.907	DURBIN WAT=	1.860
ECC			(2.58)	XCC		(7.27)	ECCL		(1.34)	MCCM	AVER % ERR=	2.52	ESTIMATION=	OLS
MISS	19.55	+	.0522	MISS	+	.4201	MISS	+	-1.6513	MISS	R SQAR BAR=	.938	DURBIN WAT=	1.108
ECC			(4.34)	XCC		(3.15)	ECCL		(3.61)	MCCM	AVER % ERR=	4.67	ESTIMATION=	OLS
MISR	-1.05	+	.0276	MISR	+	.3750	MISR	+	2.2995	U.S.	R SQAR BAR=	.878	DURBIN WAT=	1.981
ECC			(4.68)	XCC		(3.51)	ECCL		(1.68)	EXCC	AVER % ERR=	1.87	ESTIMATION=	OLS
MONT	10.95	+	.0358	MONT	+	-.0448	MONT				R SQAR BAR=	.699	DURBIN WAT=	.728
ECC			(4.35)	XCC		(1.74)	WCCR				AVER % ERR=	2.96	ESTIMATION=	C-O
NEBR	2.75	+	.0251	NEBR	+	.5013	NEBR				R SQAR BAR=	.873	DURBIN WAT=	1.066
ECC			(3.81)	XCC		(3.98)	ECCL				AVER % ERR=	3.03	ESTIMATION=	OLS
NEVA	2.30	+	.0553	NEVA	+	.1128	NEVA	+	-.1949	NEVA	R SQAR BAR=	.976	DURBIN WAT=	1.291
ECC			(15.97)	XCC		(1.93)	ECCL		(1.36)	MCCM	AVER % ERR=	3.19	ESTIMATION=	C-O
NHAM	.59	+	.0331	NHAM	+	.4897	NHAM				R SQAR BAR=	.911	DURBIN WAT=	1.720
ECC			(5.93)	XCC		(5.18)	ECCL				AVER % ERR=	3.59	ESTIMATION=	OLS
NJER	49.84	+	.0474	NJER	+	.3911	NJER	+	-4.3329	NJER	R SQAR BAR=	.830	DURBIN WAT=	1.240
ECC			(3.98)	XCC		(3.04)	ECCL		(2.14)	MCCM	AVER % ERR=	3.17	ESTIMATION=	OLS
NMEX	23.49	+	.0500	NMEX	+	-1.2192	NMEX				R SQAR BAR=	.943	DURBIN WAT=	1.580
ECC			(5.47)	XCC		(3.43)	MCCM				AVER % ERR=	2.94	ESTIMATION=	C-O
NYOR	24.62	+	.0194	NYOR	+	.6148	NYOR	+	-.8432	U.S.	R SQAR BAR=	.819	DURBIN WAT=	1.439
ECC			(4.63)	XCC		(3.42)	ECCL		(2.54)	TIME	AVER % ERR=	2.42	ESTIMATION=	OLS
NCAR	30.31	+	.0700	NCAR	+	.3131	NCAR	+	-3.3949	NCAR	R SQAR BAR=	.981	DURBIN WAT=	.949
ECC			(7.92)	XCC		(3.39)	ECCL		(1.69)	MCCM	AVER % ERR=	2.24	ESTIMATION=	C-O

ESTIMATION FOR: ECC EMPLOYMENT, CONTRACT CONSTRUCTION (5) LAG DEPENDENT VARIABLE: ECCL

NDAK	8.43	+	.0422	NDAK	+	.1947	NDAK	+	-.4363	NDAK	R SQAR BAR=	.853	DURBIN WAT=	1.039
ECC			(5.85)	XCC		(1.39)	ECCL		(5.09)	MCCM	AVER % ERR=	3.90	ESTIMATION=	OLS
OHIO	59.26	+	.0356	OHIO	+	.4866	OHIO	+	-4.3514	OHIO	R SQAR BAR=	.877	DURBIN WAT=	1.243
ECC			(5.99)	XCC		(5.43)	ECCL		(3.55)	MCCM	AVER % ERR=	2.11	ESTIMATION=	OLS
OKLA	1.11	+	.0430	OKLA	+	.4019	OKLA				R SQAR BAR=	.933	DURBIN WAT=	1.192
ECC			(4.13)	XCC		(3.02)	ECCL				AVER % ERR=	2.55	ESTIMATION=	C-O
OREG	15.72	+	.0512	OREG	+	.1413	OREG	+	-.9881	OREG	R SQAR BAR=	.964	DURBIN WAT=	1.225
ECC			(9.36)	XCC		(1.44)	ECCL		(2.57)	MCCM	AVER % ERR=	2.19	ESTIMATION=	C-O
PENN	60.68	+	.0387	PENN	+	.4636	PENN	+	-4.6276	PENN	R SQAR BAR=	.951	DURBIN WAT=	1.611
ECC			(5.35)	XCC		(5.17)	ECCL		(2.93)	MCCM	AVER % ERR=	1.88	ESTIMATION=	OLS
RHIS	-7.20	+	.0395	RHIS	+	.4643	RHIS	+	1.0082	U.S.	R SQAR BAR=	.917	DURBIN WAT=	1.721
ECC			(3.57)	XCC		(4.52)	ECCL		(1.71)	EXCC	AVER % ERR=	2.09	ESTIMATION=	OLS
SCAR	41.94	+	.0747	SCAR	+	.1840	SCAR	+	-3.6430	SCAR	R SQAR BAR=	.967	DURBIN WAT=	1.070
ECC			(6.45)	XCC		(1.56)	ECCL		(3.98)	MCCM	AVER % ERR=	3.73	ESTIMATION=	C-O
SDAK	6.66	+	.0469	SDAK	+	-.2720	SDAK				R SQAR BAR=	.861	DURBIN WAT=	1.487
ECC			(11.22)	XCC		(2.29)	MCCM				AVER % ERR=	5.21	ESTIMATION=	OLS
TENN	-2.23	+	.0647	TENN	+	.5825	TENN	+	-1.1638	U.S.	R SQAR BAR=	.962	DURBIN WAT=	1.035
ECC			(5.39)	XCC		(3.73)	ECCL		(2.02)	TIME	AVER % ERR=	3.28	ESTIMATION=	C-O
TEXA	41.12	+	.0303	TEXA	+	.6998	TEXA	+	-4.3510	TEXA	R SQAR BAR=	.975	DURBIN WAT=	1.761
ECC			(3.70)	XCC		(6.12)	ECCL		(2.04)	MCCM	AVER % ERR=	2.34	ESTIMATION=	OLS
UTAH	-2.93	+	.0457	UTAH	+	.3386	UTAH	+	.1349	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.378
ECC			(8.87)	XCC		(3.53)	ECCL		(1.72)	TIME	AVER % ERR=	2.47	ESTIMATION=	C-O
VERM	4.06	+	.0516	VERM	+	.3397	VERM	+	-.3297	VERM	R SQAR BAR=	.970	DURBIN WAT=	2.050
ECC			(7.82)	XCC		(5.05)	ECCL		(3.45)	MCCM	AVER % ERR=	2.80	ESTIMATION=	OLS
VIRG	25.55	+	.0779	VIRG	+	.2338	VIRG	+	-3.4370	VIRG	R SQAR BAR=	.980	DURBIN WAT=	1.261
ECC			(9.49)	XCC		(2.70)	ECCL		(2.23)	MCCM	AVER % ERR=	2.30	ESTIMATION=	C-O
WASH	10.98	+	.0262	WASH	+	.5405	WASH	+	-.6471	WASH	R SQAR BAR=	.905	DURBIN WAT=	1.585
ECC			(4.82)	XCC		(5.45)	ECCL		(1.76)	MCCM	AVER % ERR=	2.64	ESTIMATION=	OLS
WVIR	3.15	+	.0610	WVIR							R SQAR BAR=	.952	DURBIN WAT=	1.354
ECC			(9.85)	XCC							AVER % ERR=	3.21	ESTIMATION=	C-O
WISC	19.01	+	.0315	WISC	+	.5864	WISC	+	-1.5510	WISC	R SQAR BAR=	.867	DURBIN WAT=	1.702
ECC			(5.08)	XCC		(5.95)	ECCL		(2.87)	MCCM	AVER % ERR=	2.20	ESTIMATION=	OLS
WYOM	-3.92	+	.0385	WYOM	+	.2252	WYOM	+	.7883	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.736
ECC			(12.45)	XCC		(3.38)	ECCL		(5.52)	EXCC	AVER % ERR=	2.21	ESTIMATION=	OLS

ESTIMATION FOR: EMDR EMPLOYMENT, MANUFACTURING, DURABLE GOODS (6) LAG DEPENDENT VARIABLE: EMDL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976
EXCEPT FOR 1959 TO 1976 IN STATES: ALAS ARIZ COLO CONN D.C. HAWA IDAH KANS MICH NEBR NEVA SCAR WVIR WYOM

ALAB	-7.91	+	.0572	ALAB	+	.6586	ALAB	+	-1.8249	U.S.					R SQAR BAR=	.974	DURBIN WAT=	1.480
EMDR			(8.77)	XMDR		(8.95)	EMDL		(4.98)	TIME					AVER % ERR=	1.47	ESTIMATION=	OLS
ALAS	.48	+	.0260	ALAS	+	.2176	ALAS								R SQAR BAR=	.924	DURBIN WAT=	1.539
EMDR			(3.74)	XMDR		(1.07)	EMDL								AVER % ERR=	5.90	ESTIMATION=	OLS
ARIS	32.36	+	.0647	ARIS	+	.4356	ARIZ	+	-2.5464	U.S.					R SQAR BAR=	.972	DURBIN WAT=	1.037
EMDR			(6.59)	XMDR		(3.21)	EMDL		(3.61)	TIME					AVER % ERR=	3.19	ESTIMATION=	OLS
ARKA	31.22	+	.0626	ARKA											R SQAR BAR=	.983	DURBIN WAT=	1.563
EMDR			(33.79)	XMDR											AVER % ERR=	3.05	ESTIMATION=	OLS
CALF	1248.22	+	.0502	CALF	+	.2008	CALF	+	-7.5206	CALF	+	-11.7462	U.S.		R SQAR BAR=	.930	DURBIN WAT=	1.272
EMDR			(6.32)	XMDR		(1.57)	EMDL		(1.27)	WMR		(3.62)	TIME		AVER % ERR=	2.08	ESTIMATION=	OLS
COLO	83.50	+	.0399	COLO	+	.5236	COLO	+	-.5374	COLO	+	-.9284	U.S.		R SQAR BAR=	.965	DURBIN WAT=	1.354
EMDR			(3.09)	XMDR		(2.53)	EMDL		(1.65)	WMR		(1.15)	TIME		AVER % ERR=	2.72	ESTIMATION=	OLS
CONN	223.54	+	.0419	CONN	+	.0784	CONN	+	-4.5052	U.S.					R SQAR BAR=	.910	DURBIN WAT=	2.093
EMDR			(7.06)	XMDR		(.63)	EMDL		(7.26)	TIME					AVER % ERR=	1.78	ESTIMATION=	OLS
DELA	-.02	+	.0225	DELA	+	.6742	DELA								R SQAR BAR=	.620	DURBIN WAT=	1.055
EMDR			(2.35)	XMDR		(4.81)	EMDL								AVER % ERR=	6.56	ESTIMATION=	OLS
D.C.	-1.50	+	.0415	D.C.	+	.9275	D.C.								R SQAR BAR=	.839	DURBIN WAT=	2.661
EMDR			(1.71)	XMDR		(5.33)	EMDL								AVER % ERR=	7.98	ESTIMATION=	OLS
FLOR	48.65	+	.0624	FLOR	+	.3957	FLOR	+	-2.8748	U.S.					R SQAR BAR=	.989	DURBIN WAT=	1.038
EMDR			(9.66)	XMDR		(4.10)	EMDL		(3.58)	TIME					AVER % ERR=	2.49	ESTIMATION=	OLS
GEOR	43.04	+	.0459	GEOR	+	.3845	GEOR	+	-2.0091	U.S.					R SQAR BAR=	.963	DURBIN WAT=	.727
EMDR			(7.15)	XMDR		(3.84)	EMDL		(3.98)	TIME					AVER % ERR=	2.79	ESTIMATION=	OLS
HAWA	-.99	+	.0405	HAWA	+	.4402	HAWA	+	.1416	U.S.					R SQAR BAR=	.956	DURBIN WAT=	.730
EMDR			(3.19)	XMDR		(3.11)	EMDL		(1.31)	EXMD					AVER % ERR=	2.98	ESTIMATION=	OLS
IDAH	9.53	+	.0328	IDAH	+	.1473	IDAH	+	-.1135	U.S.					R SQAR BAR=	.995	DURBIN WAT=	2.187
EMDR			(11.45)	XMDR		(2.15)	EMDL		(1.53)	TIME					AVER % ERR=	.95	ESTIMATION=	OLS
ILLI	255.77	+	.0479	ILLI	+	.3662	ILLI	+	-14.2873	U.S.					R SQAR BAR=	.899	DURBIN WAT=	1.525
EMDR			(9.23)	XMDR		(4.20)	EMDL		(7.54)	TIME					AVER % ERR=	1.71	ESTIMATION=	OLS
INDI	212.72	+	.0486	INDI	+	.2979	INDI	+	-.6900	INDI	+	-4.8780	U.S.		R SQAR BAR=	.970	DURBIN WAT=	2.038
EMDR			(12.80)	XMDR		(2.68)	EMDL		(.51)	WMR		(4.23)	TIME		AVER % ERR=	1.40	ESTIMATION=	OLS
IOWA	87.92	+	.0383	IOWA	+	.1216	IOWA	+	-.3351	IOWA					R SQAR BAR=	.964	DURBIN WAT=	1.051
EMDR			(7.56)	XMDR		(.99)	EMDL		(1.65)	WMR					AVER % ERR=	2.61	ESTIMATION=	OLS
KANS	42.20	+	.0663	KANS	+	.4127	KANS	+	-3.2526	U.S.					R SQAR BAR=	.962	DURBIN WAT=	1.148
EMDR			(7.86)	XMDR		(4.41)	EMDL		(5.27)	TIME					AVER % ERR=	2.24	ESTIMATION=	OLS

ESTIMATION FOR: EMDR EMPLOYMENT, MANUFACTURING, DURABLE GOODS (6) LAG DEPENDENT VARIABLE: EMDL

KENT	70.91	+	.0435	KENT	+	.1979	KENT	+	-.2526	KENT	+	-.9587	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.395
EMDR			(7.52)	XMDR		(1.49)	EMDL		(.96)	WMR		(1.41)	TIME	AVER % ERR=	2.30	ESTIMATION=	OLS
LOUS	23.06	+	.0489	LOUS	+	.3085	LOUS	+	.0119	LOUS	+	-1.0093	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.238
EMDR			(5.55)	XMDR		(1.41)	EMDL		(.58)	XMDL		(3.51)	TIME	AVER % ERR=	1.73	ESTIMATION=	OLS
MAIN	1.61	+	.0346	MAIN	+	.3478	MAIN	+	1.2104	U.S.				R SQAR BAR=	.731	DURBIN WAT=	1.588
EMDR			(2.28)	XMDR		(2.13)	EMDL		(1.21)	EXMD				AVER % ERR=	2.95	ESTIMATION=	OLS
MARY	38.17	+	.0490	MARY	+	.3567	MARY	+	.0187	MARY	+	-3.5496	U.S.	R SQAR BAR=	.894	DURBIN WAT=	1.527
EMDR			(5.97)	XMDR		(2.36)	EMDL		(1.52)	XMDL		(6.36)	TIME	AVER % ERR=	1.62	ESTIMATION=	OLS
MASS	183.69	+	.0300	MASS	+	.2839	MASS	+	-3.5897	U.S.				R SQAR BAR=	.609	DURBIN WAT=	1.361
EMDR			(4.47)	XMDR		(1.91)	EMDL		(3.63)	TIME				AVER % ERR=	2.27	ESTIMATION=	OLS
MICH	576.13	+	.0197	MICH	+	.2170	MICH	+	-2.4416	MICH	+	3.9996	U.S.	R SQAR BAR=	.871	DURBIN WAT=	1.772
EMDR			(6.78)	XMDR		(1.26)	EMDL		(.87)	WMR		(2.11)	TIME	AVER % ERR=	2.46	ESTIMATION=	OLS
MINN	34.69	+	.0540	MINN	+	.3213	MINN	+	-2.0722	U.S.				R SQAR BAR=	.988	DURBIN WAT=	2.080
EMDR			(11.26)	XMDR		(4.59)	EMDL		(4.58)	TIME				AVER % ERR=	1.56	ESTIMATION=	OLS
MISS	22.42	+	.0526	MISS	+	.2614	MISS							R SQAR BAR=	.991	DURBIN WAT=	1.504
EMDR			(8.85)	XMDR		(3.04)	EMDL							AVER % ERR=	2.29	ESTIMATION=	OLS
MISR	56.43	+	.0192	MISR	+	.6617	MISR	+	-2.1898	U.S.				R SQAR BAR=	.791	DURBIN WAT=	1.214
EMDR			(2.07)	XMDR		(3.86)	EMDL		(1.37)	TIME				AVER % ERR=	3.88	ESTIMATION=	OLS
MONT	5.02	+	.0286	MONT	+	.4210	MONT	+	-.1322	U.S.				R SQAR BAR=	.777	DURBIN WAT=	1.279
EMDR			(2.80)	XMDR		(2.14)	EMDL		(1.60)	TIME				AVER % ERR=	3.27	ESTIMATION=	OLS
NEBR	37.51	+	.0713	NEBR	+	.3813	NEBR	+	-.1713	NEBR	+	-1.3929	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.834
EMDR			(7.82)	XMDR		(2.23)	EMDL		(1.43)	WMR		(3.64)	TIME	AVER % ERR=	1.94	ESTIMATION=	C-O
NEVA	11.82	+	.0389	NEVA	+	.5333	NEVA	+	-.1170	NEVA				R SQAR BAR=	.966	DURBIN WAT=	1.322
EMDR			(2.91)	XMDR		(2.86)	EMDL		(1.75)	WMR				AVER % ERR=	4.67	ESTIMATION=	OLS
NHAM	2.43	+	.0569	NHAM	+	.1853	NHAM	+	1.2179	U.S.				R SQAR BAR=	.962	DURBIN WAT=	1.413
EMDR			(4.99)	XMDR		(1.59)	EMDL		(1.11)	EXMD				AVER % ERR=	2.39	ESTIMATION=	OLS
NJER	212.01	+	.0379	NJER	+	.3372	NJER	+	-8.2893	U.S.				R SQAR BAR=	.859	DURBIN WAT=	1.555
EMDR			(6.61)	XMDR		(2.76)	EMDL		(7.26)	TIME				AVER % ERR=	1.90	ESTIMATION=	OLS
NMEX	3.59	+	.0750	NMEX	+	.3631	NMEX	+	-.0065	NMEX	+	-.2555	U.S.	R SQAR BAR=	.974	DURBIN WAT=	.916
EMDR			(5.54)	XMDR		(2.92)	EMDL		(.79)	WMR		(2.92)	TIME	AVER % ERR=	2.76	ESTIMATION=	OLS
NYOR	391.40	+	.0353	NYOR	+	.2963	NYOR	+	-12.7224	U.S.				R SQAR BAR=	.906	DURBIN WAT=	1.621
EMDR			(7.87)	XMDR		(2.94)	EMDL		(8.18)	TIME				AVER % ERR=	1.66	ESTIMATION=	OLS
NCAR	71.03	+	.0424	NCAR	+	.2130	NCAR							R SQAR BAR=	.983	DURBIN WAT=	1.070
EMDR			(7.69)	XMDR		(2.12)	EMDL							AVER % ERR=	2.40	ESTIMATION=	OLS

ESTIMATION FOR: EMDR EMPLOYMENT, MANUFACTURING, DURABLE GOODS (6) LAG DEPENDENT VARIABLE: EMDL

NDAK	2.42	+	.0306	NDAK	+	.2371	NDAK	+	-.0165	NDAK	+	.0626	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.037
EMDR			(3.10)	XMDR		(1.21)	EMDL		(1.86)	WMR		(2.27)	TIME	AVER % ERR=	6.48	ESTIMATION=	OLS
OHIO	459.58	+	.0399	OHIO	+	.3326	OHIO	+	-1.1369	OHIO	+	-15.4459	U.S.	R SQAR BAR=	.868	DURBIN WAT=	1.587
EMDR			(7.76)	XMDR		(3.04)	EMDL		(.46)	WMR		(5.25)	TIME	AVER % ERR=	1.83	ESTIMATION=	OLS
OKLA	17.32	+	.0370	OKLA	+	.3566	OKLA							R SQAR BAR=	.982	DURBIN WAT=	.920
EMDR			(5.88)	XMDR		(3.06)	EMDL							AVER % ERR=	2.82	ESTIMATION=	OLS
OREG	143.39	+	.0262	OREG	+	.1821	OREG	+	-.7318	OREG				R SQAR BAR=	.959	DURBIN WAT=	1.398
EMDR			(6.94)	XMDR		(1.63)	EMDL		(.91)	WMR				AVER % ERR=	2.09	ESTIMATION=	OLS
PENN	795.54	+	.0084	PENN	+	.4676	PENN	+	-3.8971	PENN				R SQAR BAR=	.474	DURBIN WAT=	1.320
EMDR			(1.96)	XMDR		(2.07)	EMDL		(.67)	WMR				AVER % ERR=	3.48	ESTIMATION=	OLS
RHIS	45.02	+	.0372	RHIS										R SQAR BAR=	.900	DURBIN WAT=	1.898
EMDR			(13.42)	XMDR										AVER % ERR=	2.21	ESTIMATION=	OLS
SCAR	24.73	+	.0410	SCAR	+	.2948	SCAR							R SQAR BAR=	.967	DURBIN WAT=	.999
EMDR			(4.92)	XMDR		(2.13)	EMDL							AVER % ERR=	3.62	ESTIMATION=	OLS
SDAK	1.13	+	.0683	SDAK	+	.1766	SDAK							R SQAR BAR=	.985	DURBIN WAT=	2.388
EMDR			(7.65)	XMDR		(1.48)	EMDL							AVER % ERR=	3.69	ESTIMATION=	OLS
TENN	416.88	+	.0551	TENN	+	.0186	TENN	+	-2.6151	TENN	+	-2.8925	U.S.	R SQAR BAR=	.977	DURBIN WAT=	1.062
EMDR			(6.30)	XMDR		(.12)	EMDL		(3.17)	WMR		(2.88)	TIME	AVER % ERR=	2.83	ESTIMATION=	OLS
TEXA	91.30	+	.0564	TEXA	+	.2699	TEXA	+	-4.0237	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.154
EMDR			(9.59)	XMDR		(3.51)	EMDL		(3.34)	TIME				AVER % ERR=	1.73	ESTIMATION=	OLS
UTAH	-22.21	+	.0411	UTAH	+	.3667	UTAH	+	2.8386	U.S.				R SQAR BAR=	.959	DURBIN WAT=	1.647
EMDR			(5.61)	XMDR		(3.03)	EMDL		(4.33)	EXMD				AVER % ERR=	3.19	ESTIMATION=	OLS
VERM	11.28	+	.0572	VERM	+	.1294	VERM	+	-.1622	U.S.				R SQAR BAR=	.953	DURBIN WAT=	1.150
EMDR			(9.78)	XMDR		(1.46)	EMDL		(3.37)	TIME				AVER % ERR=	2.09	ESTIMATION=	OLS
VIRG	43.53	+	.0245	VIRG	+	.4272	VIRG							R SQAR BAR=	.974	DURBIN WAT=	1.228
EMDR			(4.59)	XMDR		(3.47)	EMDL							AVER % ERR=	2.30	ESTIMATION=	OLS
WASH	35.00	+	.0387	WASH	+	.6569	WASH	+	-3.3054	U.S.				R SQAR BAR=	.596	DURBIN WAT=	.809
EMDR			(2.26)	XMDR		(4.23)	EMDL		(2.02)	TIME				AVER % ERR=	5.39	ESTIMATION=	OLS
WVIR	-50.62	+	.0453	WVIR	+	.6402	WVIR	+	4.1199	U.S.				R SQAR BAR=	.795	DURBIN WAT=	2.362
EMDR			(5.18)	XMDR		(5.43)	EMDL		(4.19)	EXMD				AVER % ERR=	1.49	ESTIMATION=	OLS
WISC	249.87	+	.0257	WISC	+	.1081	WISC	+	-.5463	WISC				R SQAR BAR=	.849	DURBIN WAT=	1.586
EMDR			(5.98)	XMDR		(.78)	EMDL		(1.01)	WMR				AVER % ERR=	2.22	ESTIMATION=	OLS
WYOM	1.78	+	.0293	WYOM										R SQAR BAR=	.680	DURBIN WAT=	1.659
EMDR			(5.91)	XMDR										AVER % ERR=	6.27	ESTIMATION=	OLS

ESTIMATION FOR: EMND EMPLOYMENT, MANUFACTURING, NONDURABLE GOODS (7) LAG DEPENDENT VARIABLE: EMNL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976
EXCEPT FOR 1959 TO 1976 IN STATES: ALAS ARIZ COLO CONN D.C. HAWA IDAH KANS MICH NEBR NEVA SCAR WVIR WYOM

ALAB	81.37	+	.0567	ALAB	+	.1970	ALAB	+	-.1508	ALAB	+	-1.1050	U.S.	R SQAR BAR=	.993	DURBIN WAT=	2.682
EMND			(9.49)	XMND		(1.84)	EMNL		(.95)	WMR		(2.38)	TIME	AVER % ERR=	.91	ESTIMATION=	OLS
ALAS	2.52	+	.0602	ALAS	+	.0565	ALAS	+	-.0105	ALAS	+	-.0470	U.S.	R SQAR BAR=	.961	DURBIN WAT=	1.969
EMND			(7.17)	XMND		(.34)	EMNL		(1.22)	WMR		(1.23)	TIME	AVER % ERR=	2.74	ESTIMATION=	OLS
ARIS	20.66	+	.0350	ARIS	+	.3002	ARIZ	+	-.1118	ARIZ				R SQAR BAR=	.984	DURBIN WAT=	1.884
EMND			(4.51)	XMND		(1.98)	EMNL		(2.09)	WMR				AVER % ERR=	1.79	ESTIMATION=	OLS
ARKA	7.19	+	.0219	ARKA	+	.9296	ARKA	+	-.8166	U.S.				R SQAR BAR=	.988	DURBIN WAT=	.989
EMND			(2.90)	XMND		(6.54)	EMNL		(1.44)	TIME				AVER % ERR=	1.89	ESTIMATION=	OLS
CALF	478.85	+	.0247	CALF	+	.1800	CALF	+	-2.1838	CALF				R SQAR BAR=	.984	DURBIN WAT=	1.978
EMND			(5.96)	XMND		(1.33)	EMNL		(1.56)	WMR				AVER % ERR=	1.07	ESTIMATION=	OLS
COLO	18.43	+	.0244	COLO	+	.2969	COLO							R SQAR BAR=	.963	DURBIN WAT=	1.907
EMND			(4.11)	XMND		(1.63)	EMNL							AVER % ERR=	1.87	ESTIMATION=	OLS
CONN	257.46	+	.0187	CONN	+	.4205	CONN	+	-1.9997	CONN				R SQAR BAR=	.800	DURBIN WAT=	1.022
EMND			(2.00)	XMND		(1.69)	EMNL		(1.61)	WMR				AVER % ERR=	2.39	ESTIMATION=	OLS
DELA	25.98	+	.0152	DELA	+	.3240	DELA	+	-.9008	U.S.				R SQAR BAR=	.910	DURBIN WAT=	1.394
EMND			(4.15)	XMND		(2.05)	EMNL		(3.51)	TIME				AVER % ERR=	2.11	ESTIMATION=	OLS
D.C.	-4.70	+	.0236	D.C.	+	.5782	D.C.	+	.8077	U.S.				R SQAR BAR=	.834	DURBIN WAT=	.625
EMND			(1.21)	XMND		(2.27)	EMNL		(1.41)	EXMN				AVER % ERR=	2.32	ESTIMATION=	OLS
FLOR	24.86	+	.0231	FLOR	+	.5863	FLOR							R SQAR BAR=	.984	DURBIN WAT=	.898
EMND			(2.61)	XMND		(3.80)	EMNL							AVER % ERR=	2.00	ESTIMATION=	OLS
GEOR	101.73	+	.0472	GEOR	+	.4007	GEOR	+	-2.8182	U.S.				R SQAR BAR=	.969	DURBIN WAT=	.793
EMND			(4.77)	XMND		(2.93)	EMNL		(2.19)	TIME				AVER % ERR=	1.69	ESTIMATION=	OLS
HAWA	1.90	+	.0437	HAWA	+	.0467	HAWA	+	1.0938	U.S.				R SQAR BAR=	.670	DURBIN WAT=	1.701
EMND			(2.22)	XMND		(.21)	EMNL		(3.40)	EXMN				AVER % ERR=	1.69	ESTIMATION=	OLS
IDAH	12.81	+	.0240	IDAH	+	.4761	IDAH	+	-.0610	IDAH				R SQAR BAR=	.972	DURBIN WAT=	2.156
EMND			(2.51)	XMND		(1.98)	EMNL		(1.33)	WMR				AVER % ERR=	2.06	ESTIMATION=	OLS
ILLI	115.11	+	.0233	ILLI	+	.4359	ILLI	+	.0191	ILLI	+	-7.4519	U.S.	R SQAR BAR=	.801	DURBIN WAT=	1.224
EMND			(3.55)	XMND		(3.13)	EMNL		(2.32)	XMNL		(4.57)	TIME	AVER % ERR=	1.24	ESTIMATION=	OLS
INDI	126.75	+	.0086	INDI	+	.3777	INDI	+	-.3591	INDI				R SQAR BAR=	.620	DURBIN WAT=	1.430
EMND			(1.68)	XMND		(1.25)	EMNL		(.68)	WMR				AVER % ERR=	1.71	ESTIMATION=	OLS
IOWA	38.20	+	.0067	IOWA	+	.5751	IOWA	+	-.0567	IOWA				R SQAR BAR=	.903	DURBIN WAT=	1.224
EMND			(1.63)	XMND		(2.85)	EMNL		(.84)	WMR				AVER % ERR=	1.12	ESTIMATION=	OLS
KANS	19.56	+	.0283	KANS	+	.5031	KANS	+	-.5897	U.S.				R SQAR BAR=	.943	DURBIN WAT=	1.542
EMND			(2.93)	XMND		(2.79)	EMNL		(1.62)	TIME				AVER % ERR=	1.16	ESTIMATION=	OLS

ESTIMATION FOR: EMND EMPLOYMENT, MANUFACTURING, NONDURABLE GOODS (7) LAG DEPENDENT VARIABLE: EMNL

KENT	12.07	+	.0084	KENT	+	.7197	KENT							R SQAR BAR=	.980	DURBIN WAT=	.994
EMND			(2.70)	XMND		(6.63)	EMNL							AVER % ERR=	1.47	ESTIMATION=	OLS
LOUS	99.29	+	.0262	LOUS	+	.2245	LOUS	+	-.3209	LOUS	+	-1.0590	U.S.	R SQAR BAR=	.956	DURBIN WAT=	1.816
EMND			(4.61)	XMND		(1.60)	EMNL		(2.50)	WMR		(3.53)	TIME	AVER % ERR=	.90	ESTIMATION=	OLS
MAIN	105.89	+	.0916	MAIN	+	.1862	MAIN	+	-.6723	MAIN	+	-1.4986	U.S.	R SQAR BAR=	.942	DURBIN WAT=	1.071
EMND			(8.53)	XMND		(1.53)	EMNL		(2.48)	WMR		(7.62)	TIME	AVER % ERR=	1.10	ESTIMATION=	OLS
MARY	18.05	+	.0408	MARY	+	.6252	MARY	+	-1.6522	U.S.				R SQAR BAR=	.935	DURBIN WAT=	.881
EMND			(6.65)	XMND		(7.38)	EMNL		(7.30)	TIME				AVER % ERR=	1.07	ESTIMATION=	OLS
MASS	223.21	+	.0430	MASS	+	.2409	MASS	+	-6.4195	U.S.				R SQAR BAR=	.982	DURBIN WAT=	1.276
EMND			(5.24)	XMND		(1.73)	EMNL		(6.17)	TIME				AVER % ERR=	1.30	ESTIMATION=	OLS
MICH	42.06	+	.0340	MICH	+	.6144	MICH	+	-3.3668	U.S.				R SQAR BAR=	.927	DURBIN WAT=	1.294
EMND			(7.60)	XMND		(7.77)	EMNL		(7.77)	TIME				AVER % ERR=	1.06	ESTIMATION=	OLS
MINN	40.08	+	.0070	MINN	+	.5949	MINN							R SQAR BAR=	.910	DURBIN WAT=	1.533
EMND			(1.74)	XMND		(3.07)	EMNL							AVER % ERR=	2.01	ESTIMATION=	OLS
MISS	28.24	+	.0481	MISS	+	.3002	MISS							R SQAR BAR=	.982	DURBIN WAT=	1.050
EMND			(5.45)	XMND		(2.32)	EMNL							AVER % ERR=	1.56	ESTIMATION=	OLS
MISR	94.28	+	.0394	MISR	+	.3415	MISR	+	-2.9977	U.S.				R SQAR BAR=	.883	DURBIN WAT=	2.071
EMND			(8.63)	XMND		(3.69)	EMNL		(8.94)	TIME				AVER % ERR=	.80	ESTIMATION=	OLS
MONT	6.87	+	.0161	MONT										R SQAR BAR=	.616	DURBIN WAT=	1.498
EMND			(5.75)	XMND										AVER % ERR=	1.35	ESTIMATION=	OLS
NEBR	14.65	+	.0081	NEBR	+	.5640	NEBR							R SQAR BAR=	.730	DURBIN WAT=	2.110
EMND			(2.47)	XMND		(2.53)	EMNL							AVER % ERR=	1.50	ESTIMATION=	OLS
NEVA	-.43	+	.0399	NEVA	+	.4072	NEVA	+	.1027	U.S.				R SQAR BAR=	.970	DURBIN WAT=	2.238
EMND			(5.31)	XMND		(3.01)	EMNL		(1.51)	EXMN				AVER % ERR=	2.10	ESTIMATION=	OLS
NHAM	-20.87	+	.0480	NHAM	+	.6058	NHAM	+	2.5672	U.S.				R SQAR BAR=	.780	DURBIN WAT=	1.139
EMND			(2.53)	XMND		(3.80)	EMNL		(3.00)	EXMN				AVER % ERR=	2.94	ESTIMATION=	OLS
NJER	79.63	+	.0352	NJER	+	.6146	NJER	+	-6.5489	U.S.				R SQAR BAR=	.867	DURBIN WAT=	1.013
EMND			(4.19)	XMND		(4.57)	EMNL		(4.14)	TIME				AVER % ERR=	1.62	ESTIMATION=	OLS
NMEX	2.70	+	.0263	NMEX	+	.3419	NMEX	+	.0403	NMEX	+	-.1196	U.S.	R SQAR BAR=	.986	DURBIN WAT=	1.585
EMND			(2.61)	XMND		(2.61)	EMNL		(2.73)	XMNL		(3.37)	TIME	AVER % ERR=	1.92	ESTIMATION=	OLS
NYOR	614.86	+	.0270	NYOR	+	.2398	NYOR	+	-17.4778	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.372
EMND			(5.54)	XMND		(1.74)	EMNL		(6.30)	TIME				AVER % ERR=	1.16	ESTIMATION=	OLS
NCAR	13.09	+	.0377	NCAR	+	.7931	NCAR	+	-5.4727	U.S.				R SQAR BAR=	.972	DURBIN WAT=	.615
EMND			(3.76)	XMND		(6.08)	EMNL		(2.23)	TIME				AVER % ERR=	1.90	ESTIMATION=	OLS

ESTIMATION FOR: EMND EMPLOYMENT, MANUFACTURING, NONDURABLE GOODS (7) LAG DEPENDENT VARIABLE: EMNL

NDAK	2.03	+	.0128	NDAK	+	.6378	NDAK	+	-.0048	NDAK				R SQAR BAR=	.936	DURBIN WAT=	1.579
EMND			(1.91)	XMND		(3.49)	EMNL		(1.01)	WMR				AVER % ERR=	2.32	ESTIMATION=	OLS
OHIO	260.88	+	.0296	OHIO	+	.3864	OHIO	+	-.8093	OHIO	+	-4.7022	U.S.	R SQAR BAR=	.818	DURBIN WAT=	1.115
EMND			(4.20)	XMND		(2.30)	EMNL		(.91)	WMR		(3.02)	TIME	AVER % ERR=	1.32	ESTIMATION=	OLS
OKLA	24.26	+	.0355	OKLA	+	.5563	OKLA	+	-.1051	OKLA	+	-.5784	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.335
EMND			(3.83)	XMND		(3.43)	EMNL		(.57)	WMR		(2.28)	TIME	AVER % ERR=	1.48	ESTIMATION=	OLS
OREG	13.01	+	.0112	OREG	+	.5901	OREG							R SQAR BAR=	.944	DURBIN WAT=	1.493
EMND			(2.59)	XMND		(3.66)	EMNL							AVER % ERR=	1.82	ESTIMATION=	OLS
PENN	170.68	+	.0597	PENN	+	.4844	PENN	+	-9.2648	U.S.				R SQAR BAR=	.927	DURBIN WAT=	1.179
EMND			(6.72)	XMND		(4.78)	EMNL		(7.15)	TIME				AVER % ERR=	1.11	ESTIMATION=	OLS
RHIS	-21.09	+	.0581	RHIS	+	.3376	RHIS	+	3.3989	U.S.				R SQAR BAR=	.934	DURBIN WAT=	1.508
EMND			(3.92)	XMND		(2.33)	EMNL		(4.22)	EXMN				AVER % ERR=	2.10	ESTIMATION=	OLS
SCAR	145.08	+	.0591	SCAR	+	.3937	SCAR	+	-.4659	SCAR	+	-3.3388	U.S.	R SQAR BAR=	.988	DURBIN WAT=	2.712
EMND			(10.51)	XMND		(4.32)	EMNL		(1.61)	WMR		(4.99)	TIME	AVER % ERR=	.79	ESTIMATION=	OLS
SDAK	8.29	+	.0265	SDAK	+	.2228	SDAK	+	-.0147	SDAK	+	-.0311	U.S.	R SQAR BAR=	.781	DURBIN WAT=	1.759
EMND			(1.99)	XMND		(.99)	EMNL		(1.84)	WMR		(.84)	TIME	AVER % ERR=	1.79	ESTIMATION=	OLS
TENN	62.63	+	.0281	TENN	+	.4927	TENN							R SQAR BAR=	.963	DURBIN WAT=	.784
EMND			(3.07)	XMND		(3.15)	EMNL							AVER % ERR=	2.02	ESTIMATION=	OLS
TEXA	266.64	+	.0266	TEXA	+	.1865	TEXA	+	-1.0122	TEXA				R SQAR BAR=	.995	DURBIN WAT=	2.074
EMND			(6.71)	XMND		(1.31)	EMNL		(2.69)	WMR				AVER % ERR=	.80	ESTIMATION=	OLS
UTAH	18.89	+	.0450	UTAH	+	.2046	UTAH	+	-.0904	UTAH				R SQAR BAR=	.980	DURBIN WAT=	2.254
EMND			(4.15)	XMND		(.93)	EMNL		(2.88)	WMR				AVER % ERR=	1.58	ESTIMATION=	OLS
VERM	-3.67	+	.0562	VERM	+	.2518	VERM	+	.7837	U.S.				R SQAR BAR=	.558	DURBIN WAT=	1.694
EMND			(3.89)	XMND		(1.51)	EMNL		(3.92)	EXMN				AVER % ERR=	2.53	ESTIMATION=	OLS
VIRG	54.23	+	.0192	VIRG	+	.5261	VIRG							R SQAR BAR=	.955	DURBIN WAT=	1.011
EMND			(3.37)	XMND		(3.87)	EMNL							AVER % ERR=	1.64	ESTIMATION=	OLS
WASH	63.02	+	.0279	WASH	+	.3954	WASH	+	-.2933	WASH	+	-.4530	U.S.	R SQAR BAR=	.759	DURBIN WAT=	1.714
EMND			(2.48)	XMND		(1.70)	EMNL		(2.00)	WMR		(1.52)	TIME	AVER % ERR=	1.26	ESTIMATION=	OLS
WVIR	47.10	+	.0034	WVIR										R SQAR BAR=	-.051	DURBIN WAT=	1.262
EMND			(.47)	XMND										AVER % ERR=	2.08	ESTIMATION=	OLS
WISC	64.28	+	.0316	WISC	+	.5955	WISC	+	-.2165	WISC	+	-1.8493	U.S.	R SQAR BAR=	.890	DURBIN WAT=	1.623
EMND			(5.18)	XMND		(5.13)	EMNL		(1.75)	WMR		(3.96)	TIME	AVER % ERR=	.79	ESTIMATION=	OLS
WYOM	2.21	+	.0230	WYOM	+	.3514	WYOM	+	-.0313	U.S.				R SQAR BAR=	.884	DURBIN WAT=	2.297
EMND			(2.39)	XMND		(2.94)	EMNL		(1.09)	TIME				AVER % ERR=	1.92	ESTIMATION=	C-O

ESTIMATION FOR: ETCU EMPLOYMENT, TRANSPORTATION, COMMUNICATION, & UTILITIES (8) LAG DEPENDENT VARIABLE: ETCL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	40.94	+	.0230	ALAB	+	.2024	ALAB	+	-.0674	ALAB	+	-.6171	U.S.	R SQAR BAR=	.986	DURBIN WAT=	2.558
ETCU			(7.66)	XTCU		(1.98)	ETCL		(2.18)	WTCR		(5.29)	TIME	AVER % ERR=	.66	ESTIMATION=	OLS
ALAS	3.68	+	.0202	ALAS	+	.1705	ALAS	+	-.2433	ALAS	+	.2394	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.646
ETCU			(11.98)	XTCU		(2.14)	ETCL		(5.00)	MTCM		(5.28)	TIME	AVER % ERR=	1.81	ESTIMATION=	OLS
ARIS	15.71	+	.0230	ARIS	+	.3379	ARIZ	+	-.1484	INTR				R SQAR BAR=	.983	DURBIN WAT=	1.688
ETCU			(4.20)	XTCU		(2.32)	ETCL		(2.84)	IMTL				AVER % ERR=	1.67	ESTIMATION=	OLS
ARKA	15.05	+	.0188	ARKA	+	.3840	ARKA	+	-.3744	ARKA				R SQAR BAR=	.975	DURBIN WAT=	1.603
ETCU			(3.69)	XTCU		(2.85)	ETCL		(1.95)	MTCM				AVER % ERR=	1.23	ESTIMATION=	OLS
CALF	237.48	+	.0303	CALF	+	.3404	CALF	+	-11.4199	CALF				R SQAR BAR=	.971	DURBIN WAT=	1.026
ETCU			(3.34)	XTCU		(2.24)	ETCL		(2.49)	MTCM				AVER % ERR=	1.66	ESTIMATION=	OLS
COLO	44.77	+	.0313	COLO	+	.2061	COLO	+	-.1450	COLO	+	-.9650	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.943
ETCU			(6.40)	XTCU		(1.85)	ETCL		(2.03)	WTCR		(4.96)	TIME	AVER % ERR=	.96	ESTIMATION=	OLS
CONN	25.13	+	.0185	CONN	+	.3996	CONN	+	-.7337	CONN				R SQAR BAR=	.930	DURBIN WAT=	1.356
ETCU			(2.73)	XTCU		(2.02)	ETCL		(2.09)	MTCM				AVER % ERR=	1.74	ESTIMATION=	OLS
DELA	5.59	+	.0113	DELA	+	.4464	DELA	+	-.1082	DELA				R SQAR BAR=	.799	DURBIN WAT=	2.043
ETCU			(2.58)	XTCU		(2.67)	ETCL		(1.88)	MTCM				AVER % ERR=	1.54	ESTIMATION=	OLS
D.C.	11.53	+	.0190	D.C.	+	.6511	D.C.	+	-.5298	D.C.	+	-.1595	U.S.	R SQAR BAR=	.722	DURBIN WAT=	1.324
ETCU			(2.19)	XTCU		(4.18)	ETCL		(2.58)	MTCM		(1.19)	TIME	AVER % ERR=	1.48	ESTIMATION=	OLS
FLOR	62.74	+	.0393	FLOR	+	-1.4288	U.S.							R SQAR BAR=	.992	DURBIN WAT=	1.247
ETCU			(5.37)	XTCU		(.93)	TIME							AVER % ERR=	1.67	ESTIMATION=	C-O
GEOR	70.30	+	.0407	GEOR	+	-2.4461	U.S.							R SQAR BAR=	.986	DURBIN WAT=	1.782
ETCU			(4.76)	XTCU		(1.76)	TIME							AVER % ERR=	1.59	ESTIMATION=	C-O
HAWA	13.61	+	.0263	HAWA	+	.4185	HAWA	+	-.0423	HAWA	+	-.3659	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.315
ETCU			(8.83)	XTCU		(5.93)	ETCL		(2.43)	WTCR		(4.79)	TIME	AVER % ERR=	.81	ESTIMATION=	OLS
IDAH	-3.89	+	.0216	IDAH	+	.4675	IDAH	+	.8813	U.S.				R SQAR BAR=	.943	DURBIN WAT=	2.362
ETCU			(3.65)	XTCU		(2.62)	ETCL		(2.95)	EXTC				AVER % ERR=	1.22	ESTIMATION=	OLS
ILLI	109.02	+	.0260	ILLI	+	.5797	ILLI	+	-7.2537	ILLI				R SQAR BAR=	.688	DURBIN WAT=	2.147
ETCU			(2.96)	XTCU		(4.60)	ETCL		(2.89)	MTCM				AVER % ERR=	1.51	ESTIMATION=	OLS
INDI	76.27	+	.0340	INDI	+	.2559	INDI	+	-.2723	INDI	+	-2.3379	U.S.	R SQAR BAR=	.945	DURBIN WAT=	2.568
ETCU			(8.29)	XTCU		(2.91)	ETCL		(2.45)	WTCR		(6.79)	TIME	AVER % ERR=	.77	ESTIMATION=	OLS
IOWA	20.32	+	.0218	IOWA	+	.5764	IOWA	+	-.0499	IOWA	+	-.7787	U.S.	R SQAR BAR=	.928	DURBIN WAT=	1.674
ETCU			(3.73)	XTCU		(5.78)	ETCL		(1.51)	WTCR		(3.25)	TIME	AVER % ERR=	.98	ESTIMATION=	OLS
KANS	56.67	+	.0341	KANS	+	.3431	KANS	+	-.2374	KANS	+	-1.3024	U.S.	R SQAR BAR=	.942	DURBIN WAT=	2.759
ETCU			(6.05)	XTCU		(3.78)	ETCL		(3.32)	WTCR		(5.58)	TIME	AVER % ERR=	.94	ESTIMATION=	OLS

ESTIMATION FOR: ETCU EMPLOYMENT, TRANSPORTATION, COMMUNICATION, & UTILITIES (8) LAG DEPENDENT VARIABLE: ETCL

KENT	31.88	+	.0250	KENT	+	.3071	KENT	+	-1.0788	KENT				R SQAR BAR=	.948	DURBIN WAT=	1.523
ETCU			(3.55)	XTCU		(2.45)	ETCL		(2.01)	MTCM				AVER % ERR=	1.12	ESTIMATION=	C-O
LOUS	65.26	+	.0416	LOUS	+	.2530	LOUS	+	-3.9032	LOUS				R SQAR BAR=	.932	DURBIN WAT=	1.461
ETCU			(4.45)	XTCU		(1.67)	ETCL		(3.88)	MTCM				AVER % ERR=	1.65	ESTIMATION=	OLS
MAIN	15.59	+	.0436	MAIN	+	.2298	MAIN	+	-.0542	MAIN	+	-.4626	U.S.	R SQAR BAR=	.898	DURBIN WAT=	1.627
ETCU			(4.29)	XTCU		(1.44)	ETCL		(2.66)	WTCR		(3.95)	TIME	AVER % ERR=	1.30	ESTIMATION=	OLS
MARY	35.71	+	.0309	MARY	+	.5047	MARY	+	-2.3800	MARY				R SQAR BAR=	.725	DURBIN WAT=	1.785
ETCU			(2.47)	XTCU		(3.17)	ETCL		(2.20)	MTCM				AVER % ERR=	1.88	ESTIMATION=	OLS
MASS	53.77	+	.0272	MASS	+	.4820	MASS	+	-3.0121	MASS				R SQAR BAR=	.832	DURBIN WAT=	1.695
ETCU			(3.13)	XTCU		(3.61)	ETCL		(2.82)	MTCM				AVER % ERR=	1.92	ESTIMATION=	OLS
MICH	78.44	+	.0305	MICH	+	.4335	MICH	+	-.5973	INTR				R SQAR BAR=	.804	DURBIN WAT=	2.430
ETCU			(4.37)	XTCU		(3.58)	ETCL		(3.97)	IMTL				AVER % ERR=	2.00	ESTIMATION=	OLS
MINN	69.70	+	.0390	MINN	+	.1885	MINN	+	-.1675	MINN	+	-2.1953	U.S.	R SQAR BAR=	.961	DURBIN WAT=	1.943
ETCU			(7.63)	XTCU		(1.77)	ETCL		(2.73)	WTCR		(6.80)	TIME	AVER % ERR=	.92	ESTIMATION=	OLS
MISS	16.13	+	.0269	MISS	+	.2269	MISS	+	-.4798	MISS				R SQAR BAR=	.981	DURBIN WAT=	1.869
ETCU			(5.03)	XTCU		(1.73)	ETCL		(2.19)	MTCM				AVER % ERR=	1.25	ESTIMATION=	C-O
MISR	118.80	+	.0328	MISR	+	.1879	MISR	+	-.3521	MISR	+	-2.5282	U.S.	R SQAR BAR=	.873	DURBIN WAT=	1.908
ETCU			(5.29)	XTCU		(1.45)	ETCL		(3.45)	WTCR		(4.86)	TIME	AVER % ERR=	1.03	ESTIMATION=	OLS
MONT	5.71	+	.0186	MONT	+	.6270	MONT	+	-.2976	MONT				R SQAR BAR=	.907	DURBIN WAT=	1.891
ETCU			(3.49)	XTCU		(5.98)	ETCL		(2.79)	MTCM				AVER % ERR=	1.28	ESTIMATION=	OLS
NEBR	14.20	+	.0248	NEBR	+	.5784	NEBR	+	-.8860	NEBR				R SQAR BAR=	.857	DURBIN WAT=	2.264
ETCU			(3.24)	XTCU		(4.96)	ETCL		(2.69)	MTCM				AVER % ERR=	1.23	ESTIMATION=	OLS
NEVA	4.68	+	.0227	NEVA	+	.3560	NEVA	+	-.1370	NEVA				R SQAR BAR=	.991	DURBIN WAT=	1.043
ETCU			(3.92)	XTCU		(2.22)	ETCL		(2.26)	MTCM				AVER % ERR=	1.87	ESTIMATION=	OLS
NHAM	8.48	+	.0081	NHAM	+	.5633	NHAM	+	-.0377	NHAM				R SQAR BAR=	.937	DURBIN WAT=	1.890
ETCU			(4.14)	XTCU		(4.81)	ETCL		(2.66)	WTCR				AVER % ERR=	1.88	ESTIMATION=	OLS
NJER	186.56	+	.0161	NJER	+	.2314	NJER	+	-.8986	NJER				R SQAR BAR=	.951	DURBIN WAT=	1.649
ETCU			(4.71)	XTCU		(1.43)	ETCL		(3.69)	WTCR				AVER % ERR=	1.33	ESTIMATION=	OLS
NMEX	14.88	+	.0282	NMEX	+	.2318	NMEX	+	-.5608	NMEX				R SQAR BAR=	.927	DURBIN WAT=	1.707
ETCU			(5.96)	XTCU		(1.71)	ETCL		(5.33)	MTCM				AVER % ERR=	1.14	ESTIMATION=	OLS
NYOR	396.86	+	.0344	NYOR	+	-13.2406	U.S.							R SQAR BAR=	.947	DURBIN WAT=	2.160
ETCU			(13.76)	XTCU		(16.34)	TIME							AVER % ERR=	.78	ESTIMATION=	OLS
NCAR	38.27	+	.0236	NCAR	+	.3390	NCAR	+	-1.1658	NCAR				R SQAR BAR=	.989	DURBIN WAT=	1.822
ETCU			(4.57)	XTCU		(2.20)	ETCL		(1.26)	MTCM				AVER % ERR=	1.15	ESTIMATION=	C-O

ESTIMATION FOR: ETCU EMPLOYMENT, TRANSPORTATION, COMMUNICATION, & UTILITIES (8) LAG DEPENDENT VARIABLE: ETCL

NDAK	6.06	+	.0220	NDAK	+	.4830	NDAK	+	-.2700	NOAK				R SQAR BAR=	.819	OURBIN WAT=	1.905
ETCU			(2.87)	XTCU		(3.32)	ETCL		(2.54)	MTCM				AVER % ERR=	1.38	ESTIMATION=	OLS
OHIO	99.85	+	.0288	OHIO	+	.4818	OHIO	+	-.6370	INTR				R SQAR BAR=	.797	DURBIN WAT=	2.116
ETCU			(4.23)	XTCU		(4.08)	ETCL		(3.97)	IMTL				AVER % ERR=	1.59	ESTIMATION=	OLS
OKLA	46.64	+	.0076	OKLA	+	.4389	OKLA	+	-.1800	OKLA				R SQAR BAR=	.957	OURBIN WAT=	1.653
ETCU			(4.53)	XTCU		(3.17)	ETCL		(2.69)	WTCR				AVER % ERR=	1.20	ESTIMATION=	OLS
OREG	22.12	+	.0267	OREG	+	.5243	OREG	+	-1.3260	OREG				R SQAR BAR=	.893	OURBIN WAT=	1.244
ETCU			(3.93)	XTCU		(4.74)	ETCL		(3.40)	MTCM				AVER % ERR=	1.52	ESTIMATION=	OLS
PENN	178.67	+	.0368	PENN	+	.3557	PENN	+	-.5897	PENN	+	-6.3821	U.S.	R SQAR BAR=	.914	OURBIN WAT=	1.529
ETCU			(4.39)	XTCU		(2.75)	ETCL		(1.47)	WTCR		(4.30)	TIME	AVER % ERR=	1.27	ESTIMATION=	OLS
RHIS	8.60	+	.0246	RHIS	+	.4114	RHIS	+	-.3813	RHIS				R SQAR BAR=	.772	OURBIN WAT=	1.724
ETCU			(4.62)	XTCU		(2.85)	ETCL		(4.80)	MTCM				AVER % ERR=	1.71	ESTIMATION=	OLS
SCAR	-4.98	+	.0237	SCAR	+	.4943	SCAR	+	1.4449	U.S.				R SQAR BAR=	.985	OURBIN WAT=	1.624
ETCU			(4.31)	XTCU		(4.70)	ETCL		(2.59)	EXTC				AVER % ERR=	1.75	ESTIMATION=	OLS
SOAK	2.37	+	.0101	SDAK	+	.7058	SDAK	+	-.0662	SDAK				R SQAR BAR=	.928	OURBIN WAT=	1.208
ETCU			(1.94)	XTCU		(5.20)	ETCL		(1.18)	MTCM				AVER % ERR=	1.55	ESTIMATION=	OLS
TENN	32.47	+	.0245	TENN	+	.3281	TENN	+	-1.0335	TENN				R SQAR BAR=	.979	OURBIN WAT=	1.893
ETCU			(4.45)	XTCU		(2.86)	ETCL		(1.93)	MTCM				AVER % ERR=	.99	ESTIMATION=	C-O
TEXA	129.03	+	.0219	TEXA	+	.3869	TEXA	+	-4.5231	TEXA				R SQAR BAR=	.964	OURBIN WAT=	1.294
ETCU			(3.07)	XTCU		(2.26)	ETCL		(2.29)	MTCM				AVER % ERR=	1.39	ESTIMATION=	OLS
UTAH	8.53	+	.0150	UTAH	+	.5793	UTAH	+	-.0533	INTR				R SQAR BAR=	.963	OURBIN WAT=	2.379
ETCU			(2.96)	XTCU		(3.44)	ETCL		(2.24)	IMTL				AVER % ERR=	.96	ESTIMATION=	OLS
VERM	4.51	+	.0202	VERM	+	.4689	VERM	+	-.0099	VERM	+	-.0999	U.S.	R SQAR BAR=	.894	OURBIN WAT=	1.739
ETCU			(2.65)	XTCU		(3.44)	ETCL		(1.77)	WTCR		(2.13)	TIME	AVER % ERR=	1.40	ESTIMATION=	OLS
VIRG	81.48	+	.0355	VIRG	+	.2313	VIRG	+	-.2515	VIRG	+	-1.8090	U.S.	R SQAR BAR=	.987	OURBIN WAT=	2.624
ETCU			(8.94)	XTCU		(2.92)	ETCL		(4.64)	WTCR		(7.38)	TIME	AVER % ERR=	.79	ESTIMATION=	OLS
WASH	31.05	+	.0247	WASH	+	.4708	WASH	+	-.3504	INTR				R SQAR BAR=	.880	OURBIN WAT=	1.412
ETCU			(2.29)	XTCU		(2.92)	ETCL		(1.81)	IMTL				AVER % ERR=	1.96	ESTIMATION=	OLS
WVIR	16.15	+	.0235	WVIR	+	.5819	WVIR	+	-.9731	WVIR				R SQAR BAR=	.860	DURBIN WAT=	1.320
ETCU			(2.24)	XTCU		(3.64)	ETCL		(2.39)	MTCM				AVER % ERR=	2.45	ESTIMATION=	OLS
WISC	52.50	+	.0270	WISC	+	.3322	WISC	+	-.1398	WISC	+	-1.1922	U.S.	R SQAR BAR=	.937	OURBIN WAT=	1.827
ETCU			(4.99)	XTCU		(3.07)	ETCL		(3.23)	WTCR		(4.01)	TIME	AVER % ERR=	.94	ESTIMATION=	OLS
WYOM	5.91	+	.0222	WYOM	+	.5550	WYOM	+	-.0254	WYOM	+	-.1302	U.S.	R SQAR BAR=	.954	DURBIN WAT=	1.997
ETCU			(3.55)	XTCU		(4.85)	ETCL		(2.52)	WTCR		(2.41)	TIME	AVER % ERR=	1.37	ESTIMATION=	OLS

ESTIMATION FOR: EWRT EMPLOYMENT, WHOLESALE & RETAIL TRADE (9) LAG DEPENDENT VARIABLE: EWRL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	45.16	+	.0353	ALAB	+	.5901	ALAB	+	-3.5707	ALAB			R SQAR BAR=	.995	DURBIN WAT= 1.826
EWRT			(5.19)	XWRT		(4.84)	EWRL		(1.53)	MWRM			AVER % ERR=	.87	ESTIMATION= OLS
ALAS	4.88	+	.0377	ALAS	+	.3011	ALAS	+	-.4406	ALAS	+	.2165 U.S.	R SQAR BAR=	.998	DURBIN WAT= 2.003
EWRT			(8.71)	XWRT		(2.76)	EWRL		(4.73)	MWRM		(4.10) TIME	AVER % ERR=	1.37	ESTIMATION= OLS
ARIS	9.30	+	.0409	ARIS	+	.5649	ARIZ	+	-.4667	U.S.			R SQAR BAR=	.997	DURBIN WAT= 1.689
EWRT			(6.01)	XWRT		(6.61)	EWRL		(1.11)	TIME			AVER % ERR=	1.21	ESTIMATION= OLS
ARKA	16.71	+	.0385	ARKA	+	.4332	ARKA						R SQAR BAR=	.998	DURBIN WAT= 2.554
EWRT			(7.61)	XWRT		(5.01)	EWRL						AVER % ERR=	.66	ESTIMATION= OLS
CALF	285.93	+	.0305	CALF	+	.6205	CALF	+	-21.6715	CALF			R SQAR BAR=	.997	DURBIN WAT= 1.585
EWRT			(4.60)	XWRT		(6.83)	EWRL		(1.99)	MWRM			AVER % ERR=	.84	ESTIMATION= OLS
COLO	102.37	+	.0411	COLO	+	.3013	COLO	+	-.5840	COLO			R SQAR BAR=	.997	DURBIN WAT= 1.473
EWRT			(6.63)	XWRT		(3.34)	EWRL		(3.41)	WWRR			AVER % ERR=	1.03	ESTIMATION= OLS
CONN	134.58	+	.0176	CONN	+	.5219	CONN	+	-.8596	CONN			R SQAR BAR=	.993	DURBIN WAT= 1.921
EWRT			(1.98)	XWRT		(3.14)	EWRL		(1.69)	WWRR			AVER % ERR=	1.25	ESTIMATION= OLS
DELA	-6.84	+	.0478	DELA	+	.5550	DELA	+	.7878	U.S.			R SQAR BAR=	.995	DURBIN WAT= 1.471
EWRT			(4.23)	XWRT		(5.46)	EWRL		(1.09)	EXWR			AVER % ERR=	1.26	ESTIMATION= OLS
D.C.	51.93	+	.0528	D.C.	+	.3230	D.C.	+	-3.4091	D.C.	+	-.3206 U.S.	R SQAR BAR=	.979	DURBIN WAT= 1.725
EWRT			(4.83)	XWRT		(2.05)	EWRL		(3.68)	MWRM		(1.43) TIME	AVER % ERR=	.82	ESTIMATION= OLS
FLOR	184.55	+	.0623	FLOR	+	.4710	FLOR	+	-21.5802	FLOR			R SQAR BAR=	.997	DURBIN WAT= 1.068
EWRT			(7.08)	XWRT		(5.93)	EWRL		(4.14)	MWRM			AVER % ERR=	1.35	ESTIMATION= OLS
GEOR	257.51	+	.0429	GEOR	+	.1311	GEOR	+	-1.3313	GEOR			R SQAR BAR=	.996	DURBIN WAT= 1.482
EWRT			(7.06)	XWRT		(1.25)	EWRL		(2.26)	WWRR			AVER % ERR=	1.09	ESTIMATION= OLS
HAWA	6.07	+	.0376	HAWA	+	.4987	HAWA						R SQAR BAR=	.998	DURBIN WAT= 1.034
EWRT			(5.61)	XWRT		(5.40)	EWRL						AVER % ERR=	.91	ESTIMATION= OLS
IDAH	19.86	+	.0558	IDAH	+	.4396	IDAH	+	-1.9740	IDAH			R SQAR BAR=	.996	DURBIN WAT= 2.407
EWRT			(6.36)	XWRT		(3.86)	EWRL		(4.40)	MWRM			AVER % ERR=	.92	ESTIMATION= OLS
ILLI	134.00	+	.0272	ILLI	+	.5204	ILLI						R SQAR BAR=	.983	DURBIN WAT= 1.651
EWRT			(3.35)	XWRT		(3.51)	EWRL						AVER % ERR=	1.33	ESTIMATION= OLS
INDI	33.43	+	.0365	INDI	+	.5224	INDI						R SQAR BAR=	.995	DURBIN WAT= 2.228
EWRT			(6.23)	XWRT		(6.32)	EWRL						AVER % ERR=	.85	ESTIMATION= OLS
IOWA	81.83	+	.0367	IOWA	+	.3393	IOWA	+	-.2578	IOWA			R SQAR BAR=	.993	DURBIN WAT= 1.857
EWRT			(5.88)	XWRT		(2.69)	EWRL		(1.86)	WWRR			AVER % ERR=	.84	ESTIMATION= OLS
KANS	14.22	+	.0264	KANS	+	.6401	KANS						R SQAR BAR=	.991	DURBIN WAT= 1.580
EWRT			(3.23)	XWRT		(4.56)	EWRL						AVER % ERR=	1.09	ESTIMATION= OLS

ESTIMATION FOR: EWRT EMPLOYMENT, WHOLESALE & RETAIL TRADE (9) LAG DEPENDENT VARIABLE: EWRL

KENT	20.69	+	.0290	KENT	+	.5725	KENT							R SQAR BAR=	.993	DURBIN WAT=	1.892
EWRT			(3.26)	XWRT		(3.72)	EWRL							AVER % ERR=	1.05	ESTIMATION=	OLS
LOUS	67.64	+	.0409	LOUS	+	.5692	LOUS	+	-6.2809	LOUS				R SQAR BAR=	.994	DURBIN WAT=	1.092
EWRT			(4.98)	XWRT		(5.38)	EWRL		(2.59)	MWRM				AVER % ERR=	1.06	ESTIMATION=	OLS
MAIN	5.88	+	.0256	MAIN	+	.6400	MAIN							R SQAR BAR=	.991	DURBIN WAT=	1.819
EWRT			(4.36)	XWRT		(6.05)	EWRL							AVER % ERR=	1.17	ESTIMATION=	OLS
MARY	149.97	+	.0197	MARY	+	.6193	MARY	+	-1.0231	MARY				R SQAR BAR=	.999	DURBIN WAT=	1.639
EWRT			(3.48)	XWRT		(8.55)	EWRL		(3.86)	WWRR				AVER % ERR=	.63	ESTIMATION=	OLS
MASS	80.49	+	.0259	MASS	+	.5758	MASS							R SQAR BAR=	.990	DURBIN WAT=	1.552
EWRT			(4.15)	XWRT		(5.46)	EWRL							AVER % ERR=	1.03	ESTIMATION=	OLS
MICH	41.00	+	.0361	MICH	+	.5248	MICH	+	-1.8613	U.S.				R SQAR BAR=	.988	DURBIN WAT=	1.682
EWRT			(5.17)	XWRT		(6.81)	EWRL		(1.29)	TIME				AVER % ERR=	1.25	ESTIMATION=	OLS
MINN	7.64	+	.0466	MINN	+	.6684	MINN	+	-2.8444	U.S.				R SQAR BAR=	.995	DURBIN WAT=	2.097
EWRT			(3.25)	XWRT		(6.44)	EWRL		(2.07)	TIME				AVER % ERR=	1.04	ESTIMATION=	OLS
MISS	33.38	+	.0406	MISS	+	.4107	MISS	+	-1.8224	MISS				R SQAR BAR=	.996	DURBIN WAT=	2.614
EWRT			(8.22)	XWRT		(4.96)	EWRL		(1.72)	MWRM				AVER % ERR=	.85	ESTIMATION=	OLS
MISR	33.15	+	.0388	MISR	+	.5849	MISR	+	-1.9268	U.S.				R SQAR BAR=	.989	DURBIN WAT=	2.203
EWRT			(4.63)	XWRT		(5.97)	EWRL		(1.87)	TIME				AVER % ERR=	.82	ESTIMATION=	OLS
MONT	20.22	+	.0239	MONT	+	.6009	MONT	+	-1.6546	MONT	+	.2406	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.659
EWRT			(1.87)	XWRT		(3.52)	EWRL		(1.54)	MWRM		(2.17)	TIME	AVER % ERR=	1.22	ESTIMATION=	OLS
NEBR	30.64	+	.0264	NEBR	+	.5636	NEBR	+	-.0998	NEBR				R SQAR BAR=	.996	DURBIN WAT=	2.198
EWRT			(3.92)	XWRT		(5.64)	EWRL		(1.86)	WWRR				AVER % ERR=	.82	ESTIMATION=	OLS
NEVA	-8.75	+	.0527	NEVA	+	.4397	NEVA	+	.8537	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.744
EWRT			(5.85)	XWRT		(4.01)	EWRL		(1.54)	EXWR				AVER % ERR=	1.48	ESTIMATION=	DLS
NHAM	6.24	+	.0600	NHAM	+	.3869	NHAM	+	-.2002	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.899
EWRT			(5.16)	XWRT		(3.39)	EWRL		(1.27)	TIME				AVER % ERR=	1.20	ESTIMATION=	OLS
NJER	355.90	+	.0292	NJER	+	.2811	NJER	+	-1.9090	NJER				R SQAR BAR=	.997	DURBIN WAT=	2.221
EWRT			(4.55)	XWRT		(2.10)	EWRL		(3.60)	WWRR				AVER % ERR=	.84	ESTIMATION=	OLS
NMEX	29.71	+	.0459	NMEX	+	.5616	NMEX	+	-2.9921	NMEX				R SQAR BAR=	.998	DURBIN WAT=	2.119
EWRT			(5.68)	XWRT		(4.22)	EWRL		(4.00)	MWRM				AVER % ERR=	.83	ESTIMATION=	DLS
NYOR	547.22	+	.0224	NYDR	+	.4587	NYDR	+	-15.7558	NYDR				R SQAR BAR=	.976	DURBIN WAT=	1.264
EWRT			(4.14)	XWRT		(2.72)	EWRL		(1.76)	MWRM				AVER % ERR=	.80	ESTIMATION=	OLS
NCAR	303.39	+	.0383	NCAR	+	.1325	NCAR	+	-1.5288	NCAR				R SQAR BAR=	.997	DURBIN WAT=	2.464
EWRT			(7.04)	XWRT		(1.30)	EWRL		(3.84)	WWRR				AVER % ERR=	.77	ESTIMATION=	OLS

ESTIMATION FOR: EWRT EMPLOYMENT, WHOLESALE & RETAIL TRADE (9) LAG DEPENDENT VARIABLE: EWRL

NDAK	-3.95	+	.0315	NDAK	+	.6365	NDAK	+	.5820	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.783
EWRT			(4.44)	XWRT		(4.95)	EWRL		(1.52)	EXWR	AVER % ERR=	1.10	ESTIMATION=	OLS
OHIO	28.58	+	.0433	OHIO	+	.6181	OHIO	+	-4.9920	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.766
EWRT			(4.05)	XWRT		(5.68)	EWRL		(1.87)	TIME	AVER % ERR=	1.06	ESTIMATION=	OLS
OKLA	-1.48	+	.0189	OKLA	+	.8337	OKLA				R SQAR BAR=	.992	DURBIN WAT=	2.052
EWRT			(1.51)	XWRT		(4.46)	EWRL				AVER % ERR=	1.03	ESTIMATION=	OLS
OREG	24.27	+	.0477	OREG	+	.4755	OREG	+	-2.0877	OREG	R SQAR BAR=	.998	DURBIN WAT=	1.835
EWRT			(9.38)	XWRT		(7.65)	EWRL		(1.56)	MWRM	AVER % ERR=	.73	ESTIMATION=	OLS
PENN	44.68	+	.0181	PENN	+	.7489	PENN				R SQAR BAR=	.987	DURBIN WAT=	1.314
EWRT			(3.40)	XWRT		(7.57)	EWRL				AVER % ERR=	1.02	ESTIMATION=	OLS
RHIS	26.09	+	.0565	RHIS	+	.3775	RHIS	+	-2.3293	RHIS	R SQAR BAR=	.992	DURBIN WAT=	1.797
EWRT			(6.48)	XWRT		(4.43)	EWRL		(2.86)	MWRM	AVER % ERR=	.98	ESTIMATION=	OLS
SCAR	28.43	+	.0474	SCAR	+	.4684	SCAR	+	-2.4855	SCAR	R SQAR BAR=	.993	DURBIN WAT=	2.044
EWRT			(4.65)	XWRT		(3.75)	EWRL		(1.44)	MWRM	AVER % ERR=	1.45	ESTIMATION=	OLS
SDAK	11.23	+	.0331	SDAK	+	.4105	SDAK				R SQAR BAR=	.987	DURBIN WAT=	1.915
EWRT			(5.96)	XWRT		(3.57)	EWRL				AVER % ERR=	1.03	ESTIMATION=	OLS
TENN	53.06	+	.0434	TENN	+	.3021	TENN				R SQAR BAR=	.996	DURBIN WAT=	2.070
EWRT			(8.58)	XWRT		(3.43)	EWRL				AVER % ERR=	.91	ESTIMATION=	OLS
TEXA	119.72	+	.0319	TEXA	+	.5272	TEXA				R SQAR BAR=	.997	DURBIN WAT=	1.310
EWRT			(4.87)	XWRT		(4.52)	EWRL				AVER % ERR=	.65	ESTIMATION=	OLS
UTAH	25.17	+	.0405	UTAH	+	.6469	UTAH	+	-2.7693	UTAH	R SQAR BAR=	.997	DURBIN WAT=	1.780
EWRT			(5.02)	XWRT		(6.06)	EWRL		(3.42)	MWRM	AVER % ERR=	.87	ESTIMATION=	OLS
VERM	3.71	+	.0152	VERM	+	.6394	VERM	+	.1233	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.281
EWRT			(1.40)	XWRT		(3.46)	EWRL		(1.53)	TIME	AVER % ERR=	1.27	ESTIMATION=	OLS
VIRG	100.93	+	.0401	VIRG	+	.3592	VIRG	+	-.2912	VIRG	R SQAR BAR=	.997	DURBIN WAT=	2.198
EWRT			(6.19)	XWRT		(3.31)	EWRL		(1.44)	WWRR	AVER % ERR=	.71	ESTIMATION=	OLS
WASH	15.02	+	.0419	WASH	+	.4752	WASH	+	-1.7351	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.943
EWRT			(7.18)	XWRT		(5.77)	EWRL		(2.82)	TIME	AVER % ERR=	.89	ESTIMATION=	OLS
WVIR	22.75	+	.0314	WVIR	+	.6152	WVIR	+	-1.7190	WVIR	R SQAR BAR=	.980	DURBIN WAT=	1.511
EWRT			(3.36)	XWRT		(4.88)	EWRL		(1.52)	MWRM	AVER % ERR=	1.23	ESTIMATION=	OLS
WISC	79.19	+	.0289	WISC	+	.5356	WISC	+	-.2854	WISC	R SQAR BAR=	.994	DURBIN WAT=	1.396
EWRT			(3.61)	XWRT		(4.08)	EWRL		(1.11)	WWRR	AVER % ERR=	1.02	ESTIMATION=	OLS
WYOM	-.55	+	.0249	WYOM	+	.7840	WYOM				R SQAR BAR=	.989	DURBIN WAT=	1.200
EWRT			(2.66)	XWRT		(5.10)	EWRL				AVER % ERR=	1.27	ESTIMATION=	OLS

ESTIMATION FOR: EFIR EMPLOYMENT, FINANCE, INSURANCE & REAL ESTATE (10) LAG DEPENDENT VARIABLE: EFIL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	13.33	+	.0158	ALAB	+	.3303	ALAB	+	-.2601	ALAB				R SQAR BAR=	.995	DURBIN WAT=	1.505
EFIR			(4.80)	XFIR		(2.17)	EFIL		(2.28)	MFRM				AVER % ERR=	1.03	ESTIMATION=	OLS
ALAS	1.25	+	.0167	ALAS	+	-.0078	ALAS							R SQAR BAR=	.998	DURBIN WAT=	2.734
EFIR			(34.65)	XFIR		(2.82)	WFRR							AVER % ERR=	1.89	ESTIMATION=	OLS
ARIS	-1.26	+	.0260	ARIS	+	-.1287	U.S.							R SQAR BAR=	.997	DURBIN WAT=	1.480
EFIR			(18.76)	XFIR		(1.28)	TIME							AVER % ERR=	1.43	ESTIMATION=	OLS
ARKA	1.70	+	.0140	ARKA	+	.2223	ARKA	+	.1659	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.141
EFIR			(4.49)	XFIR		(1.48)	EFIL		(1.80)	TIME				AVER % ERR=	1.09	ESTIMATION=	OLS
CALF	70.61	+	.0091	CALF	+	.6134	CALF	+	-1.5933	CALF				R SQAR BAR=	.996	DURBIN WAT=	1.424
EFIR			(3.62)	XFIR		(5.39)	EFIL		(1.58)	MFRM				AVER % ERR=	1.25	ESTIMATION=	OLS
COLO	-8.22	+	.0190	COLO	+	.2005	COLO	+	3.2781	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.192
EFIR			(5.85)	XFIR		(1.39)	EFIL		(1.45)	EXFI				AVER % ERR=	1.57	ESTIMATION=	OLS
CONN	69.26	+	.0155	CONN	+	-.4009	CONN							R SQAR BAR=	.989	DURBIN WAT=	1.102
EFIR			(8.49)	XFIR		(2.36)	WFRR							AVER % ERR=	1.79	ESTIMATION=	OLS
DELA	1.13	+	.0216	DELA										R SQAR BAR=	.990	DURBIN WAT=	1.043
EFIR			(45.15)	XFIR										AVER % ERR=	2.10	ESTIMATION=	OLS
D.C.	14.56	+	.0312	D.C.	+	-.9514	U.S.							R SQAR BAR=	.779	DURBIN WAT=	1.086
EFIR			(5.12)	XFIR		(4.15)	TIME							AVER % ERR=	2.06	ESTIMATION=	OLS
FLOR	-17.24	+	.0200	FLOR	+	.1926	FLOR	+	7.2333	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.317
EFIR			(10.84)	XFIR		(2.47)	EFIL		(1.48)	EXFI				AVER % ERR=	1.33	ESTIMATION=	OLS
GEOR	14.19	+	.0200	GEOR										R SQAR BAR=	.997	DURBIN WAT=	1.433
EFIR			(79.17)	XFIR										AVER % ERR=	1.06	ESTIMATION=	OLS
HAWA	2.02	+	.0187	HAWA	+	.1266	U.S.							R SQAR BAR=	.998	DURBIN WAT=	1.181
EFIR			(10.24)	XFIR		(1.57)	TIME							AVER % ERR=	1.02	ESTIMATION=	OLS
IDAH	3.47	+	.0045	IDAH	+	.7357	IDAH	+	-.0862	IDAH	+	.0478	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.198
EFIR			(1.12)	XFIR		(3.32)	EFIL		(1.59)	MFRM		(1.37)	TIME	AVER % ERR=	1.58	ESTIMATION=	OLS
ILLI	103.05	+	.0092	ILLI	+	1.9378	U.S.							R SQAR BAR=	.993	DURBIN WAT=	1.946
EFIR			(3.00)	XFIR		(2.05)	TIME							AVER % ERR=	.64	ESTIMATION=	C-O
INDI	15.39	+	.0172	INDI	+	.5121	U.S.							R SQAR BAR=	.997	DURBIN WAT=	1.573
EFIR			(4.10)	XFIR		(1.31)	TIME							AVER % ERR=	.87	ESTIMATION=	OLS
IOWA	26.82	+	.0042	IOWA	+	.2116	IOWA	+	-.3989	IOWA	+	.7445	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.063
EFIR			(1.93)	XFIR		(1.01)	EFIL		(2.62)	MFRM		(3.65)	TIME	AVER % ERR=	.69	ESTIMATION=	OLS
KANS	3.61	+	.0071	KANS	+	.7636	KANS	+	-.1061	KANS				R SQAR BAR=	.995	DURBIN WAT=	1.696
EFIR			(1.98)	XFIR		(4.43)	EFIL		(1.33)	MFRM				AVER % ERR=	1.10	ESTIMATION=	OLS

ESTIMATION FOR: EFIR EMPLOYMENT, FINANCE, INSURANCE & REAL ESTATE (10) LAG DEPENDENT VARIABLE: EFIL

KENT	9.35	+	.0097	KENT	+	.5331	KENT	+	-.0397	KENT				R SQAR BAR=	.997	DURBIN WAT=	1.488
EFIR			(3.06)	XFIR		(3.26)	EFIL		(2.06)	WFRR				AVER % ERR=	.74	ESTIMATION=	OLS
LOUS	24.30	+	.0190	LOUS	+	-.0958	LOUS							R SQAR BAR=	.990	DURBIN WAT=	1.209
EFIR			(10.38)	XFIR		(1.51)	WFRR							AVER % ERR=	1.47	ESTIMATION=	OLS
MAIN	7.27	+	.0189	MAIN	+	-.0265	MAIN							R SQAR BAR=	.992	DURBIN WAT=	1.341
EFIR			(17.00)	XFIR		(1.40)	WFRR							AVER % ERR=	1.21	ESTIMATION=	OLS
MARY	18.36	+	.0190	MARY										R SQAR BAR=	.994	DURBIN WAT=	1.185
EFIR			(10.86)	XFIR										AVER % ERR=	1.39	ESTIMATION=	C-O
MASS	-2.52	+	.0122	MASS	+	.7217	MASS	+	-1.2920	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.446
EFIR			(3.80)	XFIR		(6.07)	EFIL		(2.70)	TIME				AVER % ERR=	.74	ESTIMATION=	OLS
MICH	5.18	+	.0129	MICH	+	.4769	MICH	+	-.3225	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.368
EFIR			(5.28)	XFIR		(5.07)	EFIL		(1.12)	TIME				AVER % ERR=	.69	ESTIMATION=	OLS
MINN	16.53	+	.0085	MINN	+	1.1913	U.S.							R SQAR BAR=	.992	DURBIN WAT=	1.379
EFIR			(1.94)	XFIR		(2.88)	TIME							AVER % ERR=	1.31	ESTIMATION=	C-O
MISS	2.16	+	.0206	MISS	+	.1022	U.S.							R SQAR BAR=	.997	DURBIN WAT=	2.052
EFIR			(11.07)	XFIR		(1.49)	TIME							AVER % ERR=	1.23	ESTIMATION=	OLS
MISR	-8.20	+	.0136	MISR	+	.8052	MISR	+	-.9699	U.S.				R SQAR BAR=	.990	DURBIN WAT=	1.716
EFIR			(2.95)	XFIR		(5.30)	EFIL		(2.03)	TIME				AVER % ERR=	.83	ESTIMATION=	OLS
MONT	4.15	+	.0067	MONT	+	.5062	MONT	+	-.0832	MONT	+	.0582	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.965
EFIR			(1.59)	XFIR		(1.92)	EFIL		(2.18)	MFRM		(1.74)	TIME	AVER % ERR=	1.80	ESTIMATION=	OLS
NEBR	5.21	+	.0039	NEBR	+	.7769	NEBR	+	-.1163	NEBR	+	.0961	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.979
EFIR			(1.55)	XFIR		(5.25)	EFIL		(1.43)	MFRM		(1.38)	TIME	AVER % ERR=	.71	ESTIMATION=	OLS
NEVA	-.72	+	.0246	NEVA										R SQAR BAR=	.996	DURBIN WAT=	1.937
EFIR			(71.98)	XFIR										AVER % ERR=	1.90	ESTIMATION=	OLS
NHAM	4.27	+	.0176	NHAM	+	.3738	NHAM	+	-.1192	NHAM				R SQAR BAR=	.997	DURBIN WAT=	1.697
EFIR			(4.76)	XFIR		(2.59)	EFIL		(2.86)	MFRM				AVER % ERR=	1.09	ESTIMATION=	OLS
NJER	2.14	+	.0175	NJER	+	.3983	NJER	+	-.9656	U.S.				R SQAR BAR=	.990	DURBIN WAT=	2.327
EFIR			(2.75)	XFIR		(2.23)	EFIL		(1.30)	TIME				AVER % ERR=	1.15	ESTIMATION=	OLS
NMEX	5.81	+	.0161	NMEX	+	.2840	NMEX	+	-.1487	NMEX	+	.0706	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.403
EFIR			(4.46)	XFIR		(1.75)	EFIL		(4.28)	MFRM		(1.90)	TIME	AVER % ERR=	1.22	ESTIMATION=	OLS
NYOR	65.18	+	.0131	NYOR	+	.5234	NYOR	+	-6.7944	U.S.				R SQAR BAR=	.991	DURBIN WAT=	1.528
EFIR			(8.62)	XFIR		(6.95)	EFIL		(6.81)	TIME				AVER % ERR=	.62	ESTIMATION=	OLS
NCAR	8.05	+	.0234	NCAR										R SQAR BAR=	.996	DURBIN WAT=	1.074
EFIR			(75.47)	XFIR										AVER % ERR=	1.12	ESTIMATION=	OLS

ESTIMATION FOR: EFIR EMPLOYMENT, FINANCE, INSURANCE & REAL ESTATE (10) LAG DEPENDENT VARIABLE: EFIL

NDAK	2.18	+	.0088	NDAK	+	.1124	U.S.							R SQAR BAR=	.991	DURBIN WAT=	1.624
EFIR			(6.57)	XFIR		(7.76)	TIME							AVER % ERR=	1.23	ESTIMATION=	C-0
OHIO	138.18	+	.0165	OHIO	+	-.7978	OHIO							R SQAR BAR=	.991	DURBIN WAT=	2.100
EFIR			(7.71)	XFIR		(1.77)	WFRR							AVER % ERR=	.86	ESTIMATION=	C-0
OKLA	15.80	+	.0056	OKLA	+	.5962	OKLA	+	-.3669	OKLA	+	.3125	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.570
EFIR			(1.38)	XFIR		(3.15)	EFIL		(1.47)	MFRM		(1.51)	TIME	AVER % ERR=	1.01	ESTIMATION=	OLS
OREG	-.10	+	.0080	OREG	+	1.1366	U.S.							R SQAR BAR=	.997	DURBIN WAT=	1.807
EFIR			(2.26)	XFIR		(5.75)	TIME							AVER % ERR=	1.03	ESTIMATION=	C-0
PENN	57.97	+	.0173	PENN										R SQAR BAR=	.989	DURBIN WAT=	1.837
EFIR			(13.97)	XFIR										AVER % ERR=	.92	ESTIMATION=	C-0
RHIS	4.19	+	.0187	RHIS										R SQAR BAR=	.986	DURBIN WAT=	1.400
EFIR			(15.67)	XFIR										AVER % ERR=	1.15	ESTIMATION=	C-0
SCAR	2.29	+	.0122	SCAR	+	.5477	SCAR	+	-.0769	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.800
EFIR			(4.26)	XFIR		(4.63)	EFIL		(.93)	TIME				AVER % ERR=	1.40	ESTIMATION=	OLS
SDAK	2.08	+	.0135	SDAK	+	.0689	U.S.							R SQAR BAR=	.994	DURBIN WAT=	1.286
EFIR			(7.86)	XFIR		(3.98)	TIME							AVER % ERR=	.92	ESTIMATION=	C-0
TENN	18.24	+	.0112	TENN	+	.4354	TENN	+	-.2930	TENN				R SQAR BAR=	.987	DURBIN WAT=	1.175
EFIR			(2.61)	XFIR		(2.18)	EFIL		(.57)	MFRM				AVER % ERR=	1.78	ESTIMATION=	C-0
TEXA	4.74	+	.0073	TEXA	+	.7187	TEXA	+	-.0444	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.182
EFIR			(2.25)	XFIR		(5.86)	EFIL		(.10)	TIME				AVER % ERR=	.85	ESTIMATION=	OLS
UTAH	9.33	+	.0103	UTAH	+	.4774	UTAH	+	-.2782	UTAH	+	.1598	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.927
EFIR			(1.80)	XFIR		(2.22)	EFIL		(3.36)	MFRM		(2.08)	TIME	AVER % ERR=	1.48	ESTIMATION=	OLS
VERM	1.44	+	.0101	VERM	+	.1010	U.S.							R SQAR BAR=	.990	DURBIN WAT=	1.853
EFIR			(2.22)	XFIR		(2.52)	TIME							AVER % ERR=	1.44	ESTIMATION=	C-0
VIRG	6.22	+	.0132	VIRG	+	.2872	VIRG	+	.5247	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.284
EFIR			(2.50)	XFIR		(1.55)	EFIL		(1.34)	TIME				AVER % ERR=	1.03	ESTIMATION=	C-0
WASH	8.43	+	.0097	WASH	+	1.1968	U.S.							R SQAR BAR=	.992	DURBIN WAT=	1.335
EFIR			(3.50)	XFIR		(4.58)	TIME							AVER % ERR=	1.44	ESTIMATION=	C-0
WVIR	6.19	+	.0100	WVIR	+	.3962	WVIR	+	-.1071	WVIR	+	.0833	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.821
EFIR			(1.80)	XFIR		(1.32)	EFIL		(1.59)	MFRM		(2.00)	TIME	AVER % ERR=	1.05	ESTIMATION=	OLS
WISC	7.79	+	.0220	WISC										R SQAR BAR=	.988	DURBIN WAT=	1.524
EFIR			(40.31)	XFIR										AVER % ERR=	1.72	ESTIMATION=	OLS
WYOM	2.17	+	.0181	WYOM	+	-.0093	WYOM							R SQAR BAR=	.987	DURBIN WAT=	2.198
EFIR			(16.18)	XFIR		(5.81)	WFRR							AVER % ERR=	1.87	ESTIMATION=	OLS

ESTIMATION FOR: ESER EMPLOYMENT, SERVICES (11) LAG DEPENDENT VARIABLE: ESEL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	127.75	+	.0385	ALAB	+	.3712	ALAB	+	-15.7600	ALAB	+	2.7401	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.346
ESER			(1.68)	XSER		(1.75)	ESEL		(2.24)	MSRM		(1.65)	TIME	AVER % ERR=	1.03	ESTIMATION=	C-O
ALAS	6.62	+	.0467	ALAS										R SQAR BAR=	.994	DURBIN WAT=	1.292
ESER			(21.26)	XSER										AVER % ERR=	2.55	ESTIMATION=	C-O
ARIS	25.07	+	.0377	ARIS	+	.6678	ARIZ	+	-2.4994	ARIZ				R SQAR BAR=	.998	DURBIN WAT=	2.076
ESER			(4.01)	XSER		(8.25)	ESEL		(1.26)	MSRM				AVER % ERR=	.93	ESTIMATION=	OLS
ARKA	3.77	+	.0155	ARKA	+	.8928	ARKA							R SQAR BAR=	.991	DURBIN WAT=	1.170
ESER			(1.59)	XSER		(10.26)	ESEL							AVER % ERR=	1.33	ESTIMATION=	OLS
CALF	6.77	+	.0538	CALF	+	.4098	CALF							R SQAR BAR=	.999	DURBIN WAT=	1.766
ESER			(8.27)	XSER		(5.61)	ESEL							AVER % ERR=	.48	ESTIMATION=	OLS
COLO	36.54	+	.0510	COLO	+	.2063	COLO	+	-2.4117	COLO	+	1.8127	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.372
ESER			(7.47)	XSER		(1.91)	ESEL		(1.21)	MSRM		(4.76)	TIME	AVER % ERR=	.77	ESTIMATION=	OLS
CONN	32.98	+	.0115	CONN	+	.5440	CONN	+	2.0259	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.858
ESER			(1.08)	XSER		(2.92)	ESEL		(2.05)	TIME				AVER % ERR=	.82	ESTIMATION=	OLS
DELA	-53.98	+	.0881	DELA	+	.4596	DELA	+	4.2066	U.S.				R SQAR BAR=	.983	DURBIN WAT=	1.300
ESER			(4.69)	XSER		(2.41)	ESEL		(2.02)	EXSE				AVER % ERR=	1.99	ESTIMATION=	OLS
D.C.	36.55	+	.0177	D.C.	+	.7815	D.C.	+	-2.9366	D.C.				R SQAR BAR=	.981	DURBIN WAT=	1.196
ESER			(1.32)	XSER		(6.27)	ESEL		(1.45)	MSRM				AVER % ERR=	1.20	ESTIMATION=	OLS
FLOR	174.68	+	.0593	FLOR	+	.4956	FLOR	+	-19.4399	FLOR				R SQAR BAR=	.998	DURBIN WAT=	1.904
ESER			(5.98)	XSER		(5.87)	ESEL		(2.12)	MSRM				AVER % ERR=	.93	ESTIMATION=	OLS
GEOR	149.73	+	.0462	GEOR	+	.3797	GEOR	+	-16.5910	GEOR	+	2.6464	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.508
ESER			(2.79)	XSER		(1.98)	ESEL		(2.84)	MSRM		(2.19)	TIME	AVER % ERR=	1.07	ESTIMATION=	OLS
HAWA	24.02	+	.0647	HAWA	+	.2016	HAWA	+	-.1387	HAWA				R SQAR BAR=	.998	DURBIN WAT=	1.195
ESER			(6.46)	XSER		(1.67)	ESEL		(1.80)	WSRR				AVER % ERR=	.88	ESTIMATION=	OLS
IDAH	-33.64	+	.0405	IDAH	+	.8264	IDAH	+	2.5407	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.612
ESER			(3.66)	XSER		(6.32)	ESEL		(3.08)	EXSE				AVER % ERR=	1.17	ESTIMATION=	OLS
ILLI	256.30	+	.0451	ILLI	+	.4874	ILLI	+	-2.2817	ILLI				R SQAR BAR=	.995	DURBIN WAT=	1.258
ESER			(4.61)	XSER		(4.05)	ESEL		(1.96)	WSRR				AVER % ERR=	.85	ESTIMATION=	OLS
INDI	62.92	+	.0681	INDI	+	.4149	INDI	+	-6.8128	INDI				R SQAR BAR=	.997	DURBIN WAT=	1.982
ESER			(4.90)	XSER		(3.37)	ESEL		(1.58)	MSRM				AVER % ERR=	.82	ESTIMATION=	OLS
IOWA	-4.79	+	.0330	IOWA	+	.8079	IOWA							R SQAR BAR=	.993	DURBIN WAT=	1.446
ESER			(2.02)	XSER		(7.09)	ESEL							AVER % ERR=	1.25	ESTIMATION=	OLS
KANS	-27.31	+	1.4811	KANS	+	-1.3236	U.S.							R SQAR BAR=	.994	DURBIN WAT=	2.341
ESER			(8.37)	ESEL		(2.29)	TIME							AVER % ERR=	1.10	ESTIMATION=	OLS

ESTIMATION FOR: ESER EMPLOYMENT, SERVICES (11) LAG DEPENDENT VARIABLE: ESEL

KENT	-93.51	+	.0920	KENT	+	.2478	KENT	+	9.2420	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.407
ESER			(5.41)	XSER		(1.38)	ESEL		(3.12)	EXSE				AVER % ERR=	.75	ESTIMATION=	OLS
LOUS	-60.70	+	.0607	LOUS	+	.5479	LOUS	+	6.8140	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.122
ESER			(3.92)	XSER		(4.07)	ESEL		(1.23)	EXSE				AVER % ERR=	.93	ESTIMATION=	OLS
MAIN	7.01	+	.0342	MAIN	+	.5810	MAIN	+	.1764	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.838
ESER			(2.43)	XSER		(4.11)	ESEL		(1.44)	TIME				AVER % ERR=	1.01	ESTIMATION=	OLS
MARY	48.86	+	.0832	MARY										R SQAR BAR=	.999	DURBIN WAT=	2.185
ESER			(50.91)	XSER										AVER % ERR=	.74	ESTIMATION=	C-O
MASS	207.43	+	.0451	MASS	+	.2228	MASS	+	-14.5216	MASS	+	4.5885	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.152
ESER			(3.16)	XSER		(1.17)	ESEL		(1.59)	MSRM		(2.35)	TIME	AVER % ERR=	.85	ESTIMATION=	OLS
MICH	40.35	+	.0480	MICH	+	.4242	MICH							R SQAR BAR=	.996	DURBIN WAT=	1.429
ESER			(5.22)	XSER		(3.67)	ESEL							AVER % ERR=	.91	ESTIMATION=	C-O
MINN	2.03	+	.9589	MINN	+	.8579	U.S.							R SQAR BAR=	.990	DURBIN WAT=	2.147
ESER			(9.46)	ESEL		(1.08)	TIME							AVER % ERR=	1.45	ESTIMATION=	OLS
MISS	18.13	+	.7686	MISS	+	.7646	U.S.							R SQAR BAR=	.981	DURBIN WAT=	1.171
ESER			(5.03)	ESEL		(1.62)	TIME							AVER % ERR=	1.64	ESTIMATION=	OLS
MISR	103.67	+	.0584	MISR	+	.4449	MISR	+	-9.7666	MISR				R SQAR BAR=	.996	DURBIN WAT=	1.443
ESER			(4.30)	XSER		(3.44)	ESEL		(1.33)	MSRM				AVER % ERR=	.72	ESTIMATION=	OLS
MONT	9.30	+	.0213	MONT	+	.7711	MONT	+	-1.1055	MONT	+	.1390	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.678
ESER			(1.08)	XSER		(3.87)	ESEL		(1.29)	MSRM		(1.56)	TIME	AVER % ERR=	1.14	ESTIMATION=	OLS
NEBR	4.51	+	.0328	NEBR	+	.7221	NEBR							R SQAR BAR=	.995	DURBIN WAT=	1.625
ESER			(2.19)	XSER		(5.09)	ESEL							AVER % ERR=	.95	ESTIMATION=	OLS
NEVA	45.46	+	.0262	NEVA	+	.6940	NEVA	+	-3.4236	NEVA				R SQAR BAR=	.998	DURBIN WAT=	1.958
ESER			(3.89)	XSER		(8.28)	ESEL		(4.21)	MSRM				AVER % ERR=	1.12	ESTIMATION=	OLS
NHAM	.75	+	.0344	NHAM	+	.7382	NHAM							R SQAR BAR=	.997	DURBIN WAT=	2.593
ESER			(2.12)	XSER		(4.75)	ESEL							AVER % ERR=	1.03	ESTIMATION=	OLS
NJER	146.07	+	.0518	NJER	+	.3838	NJER	+	-10.9264	NJER				R SQAR BAR=	.998	DURBIN WAT=	1.922
ESER			(7.66)	XSER		(5.02)	ESEL		(2.38)	MSRM				AVER % ERR=	.63	ESTIMATION=	OLS
NMEX	3.93	+	.0925	NMEX	+	.3651	NMEX	+	-1.6432	NMEX				R SQAR BAR=	.989	DURBIN WAT=	2.007
ESER			(4.06)	XSER		(2.20)	ESEL		(2.82)	MSRM				AVER % ERR=	1.49	ESTIMATION=	OLS
NYOR	194.57	+	.0319	NYOR	+	.5154	NYOR							R SQAR BAR=	.997	DURBIN WAT=	2.239
ESER			(4.61)	XSER		(5.44)	ESEL							AVER % ERR=	.51	ESTIMATION=	OLS
NCAR	127.14	+	.0638	NCAR	+	.5529	NCAR	+	-18.1999	NCAR				R SQAR BAR=	.991	DURBIN WAT=	1.138
ESER			(2.25)	XSER		(2.57)	ESEL		(1.91)	MSRM				AVER % ERR=	1.27	ESTIMATION=	OLS

ESTIMATION FOR: ESER EMPLOYMENT, SERVICES (11) LAG DEPENDENT VARIABLE: ESEL

NDAK	2.94	+	.1373	NDAK										R SQAR BAR=	.988	DURBIN WAT=	1.337
ESER			(41.36)	XSER										AVER % ERR=	1.87	ESTIMATION=	OLS
OHIO	228.17	+	.0531	OHIO	+	.5816	OHIO	+	-28.4953	OHIO				R SQAR BAR=	.996	DURBIN WAT=	1.226
ESER			(3.64)	XSER		(4.64)	ESEL		(2.28)	MSRM				AVER % ERR=	.82	ESTIMATION=	OLS
OKLA	27.51	+	.0321	OKLA	+	.3789	OKLA	+	1.2697	U.S.				R SQAR BAR=	.989	DURBIN WAT=	1.230
ESER			(2.31)	XSER		(1.31)	ESEL		(1.61)	TIME				AVER % ERR=	1.31	ESTIMATION=	OLS
OREG	1.32	+	.0498	OREG	+	.4444	OREG	+	.7296	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.535
ESER			(3.21)	XSER		(3.14)	ESEL		(2.09)	TIME				AVER % ERR=	.94	ESTIMATION=	OLS
PENN	343.78	+	.0479	PENN	+	.4471	PENN	+	-2.7853	PENN				R SQAR BAR=	.989	DURBIN WAT=	1.413
ESER			(3.08)	XSER		(2.23)	ESEL		(2.11)	WSRR				AVER % ERR=	.97	ESTIMATION=	OLS
RHIS	22.03	+	.0493	RHIS	+	.5123	RHIS	+	-2.1135	RHIS				R SQAR BAR=	.990	DURBIN WAT=	1.294
ESER			(2.17)	XSER		(2.45)	ESEL		(1.49)	MSRM				AVER % ERR=	1.27	ESTIMATION=	OLS
SCAR	-158.35	+	.0200	SCAR	+	1.1009	SCAR	+	11.5347	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.778
ESER			(1.01)	XSER		(6.10)	ESEL		(1.75)	EXSE				AVER % ERR=	1.36	ESTIMATION=	OLS
SDAK	-.28	+	.1557	SDAK										R SQAR BAR=	.981	DURBIN WAT=	2.094
ESER			(17.75)	XSER										AVER % ERR=	2.02	ESTIMATION=	C-O
TENN	57.40	+	.0534	TENN	+	.3694	TENN							R SQAR BAR=	.992	DURBIN WAT=	1.576
ESER			(2.80)	XSER		(1.69)	ESEL							AVER % ERR=	.95	ESTIMATION=	C-O
TEXA	263.87	+	.0440	TEXA	+	.4659	TEXA	+	-27.5611	TEXA	+	4.8844	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.221
ESER			(2.59)	XSER		(2.00)	ESEL		(2.13)	MSRM		(1.32)	TIME	AVER % ERR=	.85	ESTIMATION=	OLS
UTAH	10.63	+	.0293	UTAH	+	.6968	UTAH	+	-1.1373	UTAH	+	.1913	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.631
ESER			(1.60)	XSER		(3.09)	ESEL		(1.24)	MSRM		(.81)	TIME	AVER % ERR=	1.27	ESTIMATION=	OLS
VERM	1.47	+	.8870	VERM	+	.1869	U.S.							R SQAR BAR=	.988	DURBIN WAT=	1.145
ESER			(5.35)	ESEL		(1.08)	TIME							AVER % ERR=	1.59	ESTIMATION=	OLS
VIRG	22.32	+	.0143	VIRG	+	.7155	VIRG	+	1.8431	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.228
ESER			(1.46)	XSER		(3.60)	ESEL		(1.16)	TIME				AVER % ERR=	1.05	ESTIMATION=	OLS
WASH	58.67	+	.0705	WASH	+	.3866	WASH	+	-5.9885	WASH	+	-.6075	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.228
ESER			(8.50)	XSER		(4.59)	ESEL		(2.52)	MSRM		(1.25)	TIME	AVER % ERR=	.68	ESTIMATION=	OLS
WVIR	-54.55	+	.0378	WVIR	+	.8244	WVIR	+	4.0936	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.875
ESER			(2.02)	XSER		(3.99)	ESEL		(1.95)	EXSE				AVER % ERR=	1.11	ESTIMATION=	OLS
WISC	-7.37	+	.0575	WISC	+	.7676	WISC	+	-2.3616	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.535
ESER			(3.93)	XSER		(7.12)	ESEL		(3.10)	TIME				AVER % ERR=	.78	ESTIMATION=	OLS
WYOM	2.69	+	.1104	WYOM										R SQAR BAR=	.913	DURBIN WAT=	1.062
ESER			(14.54)	XSER										AVER % ERR=	4.18	ESTIMATION=	OLS

ESTIMATION FOR: EGFC EMPLOYMENT, GOVERNMENT, FEDERAL CIVILIAN (12) LAG DEPENDENT VARIABLE: EGFL

THE ESTIMATION PERIOD IS FROM 1959 TO 1976

ALAB	9.90	+	.0305	ALAB	+	.4146	ALAB	R SQAR BAR=	.733	DURBIN WAT=	1.927
EGFC			(1.81)	XGFC		(1.68)	EGFL	AVER % ERR=	1.49	ESTIMATION=	C-O
ALAS	8.95	+	.0155	ALAS	+	.1833	U.S.	R SQAR BAR=	.902	DURBIN WAT=	1.114
EGFC			(2.18)	XGFC		(9.47)	TIME	AVER % ERR=	1.81	ESTIMATION=	OLS
ARIS	1.11	+	.0483	ARIS	+	.4801	U.S.	R SQAR BAR=	.991	DURBIN WAT=	2.068
EGFC			(3.80)	XGFC		(2.66)	TIME	AVER % ERR=	1.26	ESTIMATION=	C-O
ARKA	2.52	+	.0322	ARKA	+	.4866	ARKA	R SQAR BAR=	.845	DURBIN WAT=	1.180
EGFC			(3.18)	XGFC		(2.60)	EGFL	AVER % ERR=	2.28	ESTIMATION=	OLS
CALF	48.58	+	.0482	CALF	+	2.7553	U.S.	R SQAR BAR=	.974	DURBIN WAT=	1.350
EGFC			(9.55)	XGFC		(6.20)	TIME	AVER % ERR=	1.39	ESTIMATION=	OLS
COLO	.80	+	.0354	COLO	+	.5272	COLO	R SQAR BAR=	.972	DURBIN WAT=	1.261
EGFC			(2.95)	XGFC		(2.96)	EGFL	AVER % ERR=	1.68	ESTIMATION=	OLS
CONN	1.21	+	.0239	CONN	+	.6319	CONN	R SQAR BAR=	.974	DURBIN WAT=	2.293
EGFC			(2.75)	XGFC		(4.93)	EGFL	AVER % ERR=	1.68	ESTIMATION=	OLS
DELA	.69	+	.0452	DELA	+	.0711	U.S.	R SQAR BAR=	.957	DURBIN WAT=	1.687
EGFC			(2.52)	XGFC		(2.49)	TIME	AVER % ERR=	2.22	ESTIMATION=	OLS
D.C.	27.96	+	.0371	D.C.	+	1.6756	U.S.	R SQAR BAR=	.963	DURBIN WAT=	1.716
EGFC			(6.71)	XGFC		(4.79)	TIME	AVER % ERR=	1.58	ESTIMATION=	OLS
FLOR	5.75	+	.0263	FLOR	+	.5774	FLOR	R SQAR BAR=	.983	DURBIN WAT=	1.582
EGFC			(3.15)	XGFC		(4.47)	EGFL	AVER % ERR=	1.69	ESTIMATION=	OLS
GEOR	11.41	+	.0555	GEOR	+	.1546	GEOR	R SQAR BAR=	.969	DURBIN WAT=	1.691
EGFC			(6.12)	XGFC		(1.17)	EGFL	AVER % ERR=	1.67	ESTIMATION=	OLS
HAWA	3.12	+	.0308	HAWA	+	.4952	HAWA	R SQAR BAR=	.968	DURBIN WAT=	1.502
EGFC			(5.20)	XGFC		(5.94)	EGFL	AVER % ERR=	1.35	ESTIMATION=	OLS
IDAH	.29	+	.0325	IDAH	+	.5818	IDAH	R SQAR BAR=	.958	DURBIN WAT=	1.602
EGFC			(3.29)	XGFC		(3.83)	EGFL	AVER % ERR=	1.80	ESTIMATION=	OLS
ILLI	30.99	+	.0542	ILLI				R SQAR BAR=	.898	DURBIN WAT=	1.911
EGFC			(12.27)	XGFC				AVER % ERR=	1.40	ESTIMATION=	OLS
INDI	-3.33	+	.0502	INDI	+	.4634	INDI	R SQAR BAR=	.975	DURBIN WAT=	1.752
EGFC			(5.22)	XGFC		(4.83)	EGFL	AVER % ERR=	1.93	ESTIMATION=	OLS
IOWA	5.77	+	.0203	IOWA	+	.4722	IOWA	R SQAR BAR=	.801	DURBIN WAT=	1.775
EGFC			(1.50)	XGFC		(2.27)	EGFL	AVER % ERR=	1.45	ESTIMATION=	OLS
KANS	4.34	+	.0327	KANS	+	.4393	KANS	R SQAR BAR=	.884	DURBIN WAT=	2.034
EGFC			(4.46)	XGFC		(3.15)	EGFL	AVER % ERR=	1.30	ESTIMATION=	OLS

ESTIMATION FOR: EGFC EMPLOYMENT, GOVERNMENT, FEDERAL CIVILIAN (12) LAG DEPENDENT VARIABLE: EGFL

KENT	2.71	+	.0479	KENT	+	.2521	KENT	+	.1910	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.915
EGFC			(8.12)	XGFC		(2.57)	EGFL		(2.56)	TIME	AVER % ERR=	1.36	ESTIMATION=	OLS
LOUS	9.89	+	.0392	LOUS	+	.2272	U.S.				R SQAR BAR=	.975	DURBIN WAT=	1.595
EGFC			(5.24)	XGFC		(3.74)	TIME				AVER % ERR=	1.24	ESTIMATION=	OLS
MAIN	4.00	+	.0623	MAIN							R SQAR BAR=	.875	DURBIN WAT=	1.228
EGFC			(10.95)	XGFC							AVER % ERR=	1.86	ESTIMATION=	OLS
MARY	2.20	+	.0140	MARY	+	.8038	MARY				R SQAR BAR=	.987	DURBIN WAT=	1.507
EGFC			(2.53)	XGFC		(10.33)	EGFL				AVER % ERR=	1.73	ESTIMATION=	OLS
MASS	20.46	+	.0356	MASS	+	.2803	MASS	+	-.2545	U.S.	R SQAR BAR=	.815	DURBIN WAT=	1.568
EGFC			(3.56)	XGFC		(1.87)	EGFL		(4.23)	TIME	AVER % ERR=	1.43	ESTIMATION=	OLS
MICH	17.46	+	.0364	MICH	+	.4763	U.S.				R SQAR BAR=	.972	DURBIN WAT=	1.660
EGFC			(5.84)	XGFC		(5.62)	TIME				AVER % ERR=	1.32	ESTIMATION=	OLS
MINN	4.82	+	.0664	MINN							R SQAR BAR=	.957	DURBIN WAT=	1.345
EGFC			(19.53)	XGFC							AVER % ERR=	1.34	ESTIMATION=	OLS
MISS	.47	+	.0315	MISS	+	.6102	MISS				R SQAR BAR=	.964	DURBIN WAT=	1.803
EGFC			(2.39)	XGFC		(3.36)	EGFL				AVER % ERR=	1.86	ESTIMATION=	OLS
MISR	11.51	+	.0585	MISR	+	.1609	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.534
EGFC			(14.69)	XGFC		(1.95)	TIME				AVER % ERR=	1.11	ESTIMATION=	OLS
MONT	-.31	+	.0505	MONT	+	.4196	MONT				R SQAR BAR=	.902	DURBIN WAT=	1.499
EGFC			(2.78)	XGFC		(2.19)	EGFL				AVER % ERR=	2.56	ESTIMATION=	OLS
NEBR	8.40	+	.0422	NEBR							R SQAR BAR=	.534	DURBIN WAT=	1.077
EGFC			(2.02)	XGFC							AVER % ERR=	1.59	ESTIMATION=	C-O
NEVA	2.11	+	.0404	NEVA	+	.0735	U.S.				R SQAR BAR=	.980	DURBIN WAT=	1.301
EGFC			(7.52)	XGFC		(4.09)	TIME				AVER % ERR=	1.48	ESTIMATION=	OLS
NHAM	-.24	+	.0249	NHAM	+	.7029	NHAM				R SQAR BAR=	.959	DURBIN WAT=	1.826
EGFC			(2.01)	XGFC		(4.97)	EGFL				AVER % ERR=	2.46	ESTIMATION=	OLS
NJER	7.85	+	.0633	NJER							R SQAR BAR=	.977	DURBIN WAT=	.973
EGFC			(26.63)	XGFC							AVER % ERR=	1.37	ESTIMATION=	OLS
NMEX	13.72	+	.0235	NMEX	+	.2272	U.S.				R SQAR BAR=	.905	DURBIN WAT=	1.413
EGFC			(2.86)	XGFC		(6.61)	TIME				AVER % ERR=	1.47	ESTIMATION=	OLS
NYOR	133.70	+	.0170	NYOR	+	-.1573	U.S.				R SQAR BAR=	.168	DURBIN WAT=	1.566
EGFC			(1.96)	XGFC		(1.34)	TIME				AVER % ERR=	1.17	ESTIMATION=	OLS
NCAR	17.47	+	.0313	NCAR	+	.4548	U.S.				R SQAR BAR=	.971	DURBIN WAT=	1.580
EGFC			(2.82)	XGFC		(2.91)	TIME				AVER % ERR=	1.52	ESTIMATION=	OLS

ESTIMATION FOR: EGFC EMPLOYMENT, GOVERNMENT, FEDERAL CIVILIAN (12) LAG DEPENDENT VARIABLE: EGFL

NDAK	.76	+	.0441	NDAK	+	.4368	NDAK				R SQAR BAR=	.947	DURBIN WAT=	1.263
EGFC			(2.28)	XGFC		(2.34)	EGFL				AVER % ERR=	1.99	ESTIMATION=	OLS
OHIO	46.55	+	.0358	OHIO							R SQAR BAR=	.817	DURBIN WAT=	1.851
EGFC			(8.78)	XGFC							AVER % ERR=	1.53	ESTIMATION=	OLS
OKLA	7.52	+	.0619	OKLA	+	.1836	U.S.				R SQAR BAR=	.951	DURBIN WAT=	1.038
EGFC			(11.34)	XGFC		(2.37)	TIME				AVER % ERR=	1.83	ESTIMATION=	OLS
OREG	12.26	+	.0151	OREG	+	.3420	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.760
EGFC			(2.56)	XGFC		(8.89)	TIME				AVER % ERR=	.96	ESTIMATION=	OLS
PENN	32.29	+	.0250	PENN	+	.3878	PENN	+	.2507	U.S.	R SQAR BAR=	.829	DURBIN WAT=	1.798
EGFC			(3.40)	XGFC		(2.14)	EGFL		(1.39)	TIME	AVER % ERR=	1.43	ESTIMATION=	OLS
RHIS	-.17	+	.0683	RHIS	+	.2256	RHIS	+	-.0744	U.S.	R SQAR BAR=	.968	DURBIN WAT=	2.237
EGFC			(11.53)	XGFC		(2.88)	EGFL		(4.58)	TIME	AVER % ERR=	1.84	ESTIMATION=	OLS
SCAR	5.35	+	.0363	SCAR	+	.2678	SCAR	+	.2077	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.784
EGFC			(6.24)	XGFC		(2.19)	EGFL		(2.82)	TIME	AVER % ERR=	1.17	ESTIMATION=	OLS
SDAK	-1.31	+	.0387	SDAK	+	.6814	SDAK				R SQAR BAR=	.776	DURBIN WAT=	2.033
EGFC			(1.63)	XGFC		(4.15)	EGFL				AVER % ERR=	3.40	ESTIMATION=	OLS
TENN	-5.35	+	.0465	TENN	+	.5179	TENN				R SQAR BAR=	.979	DURBIN WAT=	2.605
EGFC			(3.09)	XGFC		(2.56)	EGFL				AVER % ERR=	1.88	ESTIMATION=	OLS
TEXA	30.43	+	.0556	TEXA	+	.6574	U.S.				R SQAR BAR=	.988	DURBIN WAT=	1.381
EGFC			(12.40)	XGFC		(2.96)	TIME				AVER % ERR=	1.02	ESTIMATION=	OLS
UTAH	-.73	+	.0556	UTAH	+	.3142	UTAH				R SQAR BAR=	.954	DURBIN WAT=	1.882
EGFC			(5.87)	XGFC		(2.92)	EGFL				AVER % ERR=	2.44	ESTIMATION=	OLS
VERM	.09	+	.0375	VERM	+	.5103	VERM				R SQAR BAR=	.922	DURBIN WAT=	2.538
EGFC			(2.79)	XGFC		(2.49)	EGFL				AVER % ERR=	1.90	ESTIMATION=	OLS
VIRG	10.69	+	.0345	VIRG	+	.4455	VIRG				R SQAR BAR=	.964	DURBIN WAT=	1.404
EGFC			(2.38)	XGFC		(2.03)	EGFL				AVER % ERR=	2.23	ESTIMATION=	OLS
WASH	16.57	+	.0437	WASH	+	.3106	U.S.				R SQAR BAR=	.959	DURBIN WAT=	1.627
EGFC			(7.30)	XGFC		(3.77)	TIME				AVER % ERR=	1.28	ESTIMATION=	OLS
WVIR	.71	+	.0791	WVIR							R SQAR BAR=	.963	DURBIN WAT=	1.684
EGFC			(7.33)	XGFC							AVER % ERR=	1.74	ESTIMATION=	C-O
WISC	-.56	+	.0426	WISC	+	.5009	WISC				R SQAR BAR=	.958	DURBIN WAT=	2.137
EGFC			(3.48)	XGFC		(3.63)	EGFL				AVER % ERR=	1.90	ESTIMATION=	OLS
WYOM	2.51	+	.0381	WYOM	+	.0328	U.S.				R SQAR BAR=	.856	DURBIN WAT=	1.587
EGFC			(5.33)	XGFC		(2.85)	TIME				AVER % ERR=	2.27	ESTIMATION=	OLS

ESTIMATION FOR: EGAF EMPLOYMENT, GOVERNMENT, FEDERAL MILITARY (13) LAG DEPENDENT VARIABLE: EGAL

THE ESTIMATION PERIOD IS FROM 1957 TO 1976

ALAB	1.33	+	.0553	ALAB	+	.1029	U.S.				R SQAR BAR=	.847	DURBIN WAT=	1.317
EGAF			(9.64)	XGAF		(1.38)	TIME				AVER % ERR=	3.91	ESTIMATION=	OLS
ALAS	26.54	+	.0433	ALAS	+	-.4679	U.S.				R SQAR BAR=	.901	DURBIN WAT=	1.810
EGAF			(4.89)	XGAF		(7.91)	TIME				AVER % ERR=	2.67	ESTIMATION=	OLS
ARIS	6.15	+	.0506	ARIS	+	.1675	U.S.				R SQAR BAR=	.878	DURBIN WAT=	2.135
EGAF			(6.38)	XGAF		(1.92)	TIME				AVER % ERR=	3.86	ESTIMATION=	OLS
ARKA	-13.76	+	.1241	ARKA	+	.2040	ARKA	+	.1217	U.S.	R SQAR BAR=	.901	DURBIN WAT=	1.733
EGAF			(9.88)	XGAF		(2.36)	EGAL		(2.14)	TIME	AVER % ERR=	5.63	ESTIMATION=	OLS
CALF	101.68	+	.0549	CALF	+	.2725	CALF	+	-2.8111	U.S.	R SQAR BAR=	.945	DURBIN WAT=	1.081
EGAF			(5.15)	XGAF		(1.79)	EGAL		(5.38)	TIME	AVER % ERR=	1.98	ESTIMATION=	OLS
COLO	8.89	+	.0573	COLO	+	.3202	U.S.				R SQAR BAR=	.919	DURBIN WAT=	1.919
EGAF			(8.21)	XGAF		(2.31)	TIME				AVER % ERR=	3.00	ESTIMATION=	OLS
CONN	.67	+	.0282	CONN	+	.5242	CONN				R SQAR BAR=	.302	DURBIN WAT=	1.951
EGAF			(2.65)	XGAF		(2.25)	EGAL				AVER % ERR=	2.64	ESTIMATION=	OLS
DELA	3.54	+	.0599	DELA	+	-.0892	U.S.				R SQAR BAR=	.699	DURBIN WAT=	1.524
EGAF			(4.01)	XGAF		(1.93)	TIME				AVER % ERR=	6.83	ESTIMATION=	OLS
D.C.	-1.82	+	.0755	D.C.	+	-.1655	U.S.				R SQAR BAR=	.845	DURBIN WAT=	1.167
EGAF			(5.54)	XGAF		(1.34)	TIME				AVER % ERR=	4.89	ESTIMATION=	OLS
FLOR	31.01	+	.0433	FLOR	+	.3036	FLOR	+	-.6138	U.S.	R SQAR BAR=	.596	DURBIN WAT=	1.206
EGAF			(2.25)	XGAF		(1.25)	EGAL		(2.07)	TIME	AVER % ERR=	3.46	ESTIMATION=	OLS
GEOR	20.61	+	.0771	GEOR	+	-.6714	U.S.				R SQAR BAR=	.925	DURBIN WAT=	.526
EGAF			(12.72)	XGAF		(2.41)	TIME				AVER % ERR=	5.84	ESTIMATION=	OLS
HAWA	-8.05	+	.1704	HAWA	+	-1.2181	U.S.				R SQAR BAR=	.522	DURBIN WAT=	1.860
EGAF			(2.28)	XGAF		(3.63)	TIME				AVER % ERR=	10.57	ESTIMATION=	OLS
IDAH	-4.18	+	.1137	IDAH	+	.2292	IDAH				R SQAR BAR=	.725	DURBIN WAT=	1.873
EGAF			(4.87)	XGAF		(1.55)	EGAL				AVER % ERR=	5.17	ESTIMATION=	OLS
ILLI	14.46	+	.0654	ILLI	+	-.3696	U.S.				R SQAR BAR=	.928	DURBIN WAT=	2.032
EGAF			(6.21)	XGAF		(1.12)	TIME				AVER % ERR=	2.97	ESTIMATION=	C-O
INDI	1.58	+	.0239	INDI	+	.4439	INDI	+	-.0903	U.S.	R SQAR BAR=	.687	DURBIN WAT=	2.148
EGAF			(2.86)	XGAF		(3.02)	EGAL		(3.22)	TIME	AVER % ERR=	5.23	ESTIMATION=	OLS
IOWA	-1.00	+	.0230	IOWA	+	.4534	IOWA				R SQAR BAR=	.733	DURBIN WAT=	1.169
EGAF			(1.82)	XGAF		(2.14)	EGAL				AVER % ERR=	16.58	ESTIMATION=	OLS
KANS	-3.50	+	.0677	KANS	+	.2669	KANS				R SQAR BAR=	.795	DURBIN WAT=	1.621
EGAF			(5.93)	XGAF		(1.98)	EGAL				AVER % ERR=	4.46	ESTIMATION=	OLS

ESTIMATION FOR: EGAF EMPLOYMENT, GOVERNMENT, FEDERAL MILITARY (13) LAG DEPENDENT VARIABLE: EGAL

KENT	19.91	+	.0670	KENT	+	-.3079	U.S.				R SQAR BAR=	.827	DURBIN WAT=	.604
EGAF			(8.53)	XGAF		(2.65)	TIME				AVER % ERR=	3.94	ESTIMATION=	OLS
LOUS	-1.46	+	.0878	LOUS							R SQAR BAR=	.942	DURBIN WAT=	1.096
EGAF			(10.44)	XGAF							AVER % ERR=	3.18	ESTIMATION=	C-O
MAIN	-2.19	+	.0519	MAIN	+	.4962	MAIN				R SQAR BAR=	.934	DURBIN WAT=	1.323
EGAF			(2.31)	XGAF		(2.23)	EGAL				AVER % ERR=	5.32	ESTIMATION=	OLS
MARY	18.76	+	.0670	MARY	+	-.4606	U.S.				R SQAR BAR=	.946	DURBIN WAT=	.835
EGAF			(15.63)	XGAF		(5.11)	TIME				AVER % ERR=	2.57	ESTIMATION=	OLS
MASS	29.86	+	.0496	MASS	+	-1.0301	U.S.				R SQAR BAR=	.968	DURBIN WAT=	1.357
EGAF			(4.75)	XGAF		(4.27)	TIME				AVER % ERR=	3.86	ESTIMATION=	OLS
MICH	-5.88	+	.0450	MICH	+	.5299	MICH				R SQAR BAR=	.772	DURBIN WAT=	1.355
EGAF			(2.63)	XGAF		(3.13)	EGAL				AVER % ERR=	7.49	ESTIMATION=	OLS
MINN	-1.44	+	.0203	MINN	+	.7615	MINN				R SQAR BAR=	.913	DURBIN WAT=	1.567
EGAF			(1.89)	XGAF		(4.69)	EGAL				AVER % ERR=	5.56	ESTIMATION=	OLS
MISS	6.72	+	.0564	MISS	+	.1750	MISS	+	-.1741	U.S.	R SQAR BAR=	.722	DURBIN WAT=	1.660
EGAF			(4.79)	XGAF		(1.35)	EGAL		(2.47)	TIME	AVER % ERR=	4.65	ESTIMATION=	OLS
MISR	8.95	+	.0604	MISR	+	-.1310	U.S.				R SQAR BAR=	.911	DURBIN WAT=	.967
EGAF			(11.97)	XGAF		(2.27)	TIME				AVER % ERR=	2.96	ESTIMATION=	OLS
MONT	.78	+	.0632	MONT	+	.2714	MONT	+	-.0689	U.S.	R SQAR BAR=	.774	DURBIN WAT=	1.187
EGAF			(2.33)	XGAF		(1.21)	EGAL		(1.44)	TIME	AVER % ERR=	7.99	ESTIMATION=	OLS
NEBR	-10.82	+	.1292	NEBR							R SQAR BAR=	.712	DURBIN WAT=	1.201
EGAF			(6.56)	XGAF							AVER % ERR=	9.28	ESTIMATION=	OLS
NEVA	1.45	+	.0528	NEVA	+	.2616	NEVA				R SQAR BAR=	.728	DURBIN WAT=	1.584
EGAF			(4.63)	XGAF		(1.71)	EGAL				AVER % ERR=	4.25	ESTIMATION=	OLS
NHAM	-1.54	+	.1156	NHAM							R SQAR BAR=	.911	DURBIN WAT=	1.774
EGAF			(13.20)	XGAF							AVER % ERR=	4.62	ESTIMATION=	OLS
NJER	12.76	+	.0671	NJER	+	.1040	NJER	+	-.4872	U.S.	R SQAR BAR=	.984	DURBIN WAT=	1.428
EGAF			(11.43)	XGAF		(1.27)	EGAL		(6.15)	TIME	AVER % ERR=	2.32	ESTIMATION=	OLS
NMEX	-3.82	+	.0726	NMEX	+	.3363	NMEX				R SQAR BAR=	.724	DURBIN WAT=	1.645
EGAF			(2.20)	XGAF		(1.45)	EGAL				AVER % ERR=	6.02	ESTIMATION=	OLS
NYOR	-6.39	+	.0307	NYOR	+	.5603	NYOR				R SQAR BAR=	.893	DURBIN WAT=	1.876
EGAF			(2.15)	XGAF		(2.80)	EGAL				AVER % ERR=	5.45	ESTIMATION=	OLS
NCAR	16.39	+	.0620	NCAR	+	.1550	NCAR				R SQAR BAR=	.948	DURBIN WAT=	1.059
EGAF			(8.23)	XGAF		(1.62)	EGAL				AVER % ERR=	1.96	ESTIMATION=	OLS

ESTIMATION FOR: EGAF EMPLOYMENT, GOVERNMENT, FEDERAL MILITARY (13) LAG DEPENDENT VARIABLE: EGAL

NDAK	.83	+	.0779	NDAK					R SQAR BAR=	.840	DURBIN WAT=	.874
EGAF			(9.49)	XGAF					AVER % ERR=	7.50	ESTIMATION=	OLS
OHIO	14.16	+	.0257	OHIO	+	-.3215	U.S.		R SQAR BAR=	.553	DURBIN WAT=	1.744
EGAF			(2.21)	XGAF		(2.44)	TIME		AVER % ERR=	6.17	ESTIMATION=	OLS
OKLA	10.04	+	.0585	OKLA	+	-.1255	U.S.		R SQAR BAR=	.805	DURBIN WAT=	1.125
EGAF			(7.81)	XGAF		(1.24)	TIME		AVER % ERR=	4.14	ESTIMATION=	OLS
OREG	-2.90	+	.0650	OREG	+	.3380	OREG		R SQAR BAR=	.863	DURBIN WAT=	1.198
EGAF			(3.68)	XGAF		(1.88)	EGAL		AVER % ERR=	7.96	ESTIMATION=	OLS
PENN	7.74	+	.0286	PENN	+	-.1819	U.S.		R SQAR BAR=	.866	DURBIN WAT=	1.138
EGAF			(3.60)	XGAF		(2.10)	TIME		AVER % ERR=	4.80	ESTIMATION=	OLS
RHIS	11.37	+	.0961	RHIS	+	-.5180	U.S.		R SQAR BAR=	.988	DURBIN WAT=	1.484
EGAF			(23.63)	XGAF		(8.69)	TIME		AVER % ERR=	3.51	ESTIMATION=	OLS
SCAR	23.42	+	.0546	SCAR	+	.1763	U.S.		R SQAR BAR=	.883	DURBIN WAT=	1.294
EGAF			(9.55)	XGAF		(1.74)	TIME		AVER % ERR=	2.34	ESTIMATION=	OLS
SDAK	.06	+	.0495	SDAK	+	.3068	SDAK		R SQAR BAR=	.275	DURBIN WAT=	1.327
EGAF			(1.88)	XGAF		(1.44)	EGAL		AVER % ERR=	7.49	ESTIMATION=	OLS
TENN	-3.97	+	.0740	TENN					R SQAR BAR=	.802	DURBIN WAT=	1.461
EGAF			(8.36)	XGAF					AVER % ERR=	7.07	ESTIMATION=	OLS
TEXA	102.20	+	.0408	TEXA	+	-1.0108	U.S.		R SQAR BAR=	.719	DURBIN WAT=	1.516
EGAF			(5.29)	XGAF		(2.72)	TIME		AVER % ERR=	3.15	ESTIMATION=	OLS
UTAH	1.45	+	.0380	UTAH					R SQAR BAR=	.254	DURBIN WAT=	1.257
EGAF			(2.61)	XGAF					AVER % ERR=	7.08	ESTIMATION=	OLS
VERM	-.67	+	.0475	VERM	+	.2509	VERM		R SQAR BAR=	.947	DURBIN WAT=	1.895
EGAF			(3.47)	XGAF		(1.98)	EGAL		AVER % ERR=	15.08	ESTIMATION=	OLS
VIRG	62.54	+	.0640	VIRG	+	-.9307	U.S.		R SQAR BAR=	.884	DURBIN WAT=	.948
EGAF			(11.43)	XGAF		(3.06)	TIME		AVER % ERR=	2.86	ESTIMATION=	OLS
WASH	15.59	+	.0782	WASH	+	-.4080	U.S.		R SQAR BAR=	.905	DURBIN WAT=	.951
EGAF			(11.31)	XGAF		(3.07)	TIME		AVER % ERR=	3.57	ESTIMATION=	OLS
WVIR	.02	+	.0037	WVIR	+	.5530	WVIR		R SQAR BAR=	.431	DURBIN WAT=	1.517
EGAF			(1.55)	XGAF		(2.80)	EGAL		AVER % ERR=	9.85	ESTIMATION=	OLS
WISC	-1.61	+	.0210	WISC	+	.6738	WISC		R SQAR BAR=	.911	DURBIN WAT=	1.589
EGAF			(1.65)	XGAF		(3.95)	EGAL		AVER % ERR=	9.50	ESTIMATION=	OLS
WYOM	-.58	+	.1021	WYOM	+	-.0447	U.S.		R SQAR BAR=	.724	DURBIN WAT=	1.174
EGAF			(6.63)	XGAF		(1.86)	TIME		AVER % ERR=	7.66	ESTIMATION=	OLS

ESTIMATION FOR: EGLS EMPLOYMENT, GOVERNMENT, STATE & LOCAL (14) LAG DEPENDENT VARIABLE: EGLL

THE ESTIMATION PERIOD IS FROM 1959 TO 1976

ALAB	-4.99	+	.0555	ALAB	+	.6441	ALAB				R SQAR BAR=	.994	DURBIN WAT=	1.805
EGLS			(3.04)	XGLS		(5.05)	EGLL				AVER % ERR=	1.47	ESTIMATION=	OLS
ALAS	-.23	+	.0314	ALAS	+	.5873	ALAS	+	.1356	ALAS	R SQAR BAR=	.997	DURBIN WAT=	1.643
EGLS			(2.71)	XGLS		(3.79)	EGLL		(1.45)	UT1	AVER % ERR=	2.26	ESTIMATION=	OLS
ARIS	-14.44	+	.0885	ARIS	+	1.2100	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.181
EGLS			(9.47)	XGLS		(2.65)	TIME				AVER % ERR=	1.58	ESTIMATION=	OLS
ARKA	-1.78	+	.0471	ARKA	+	.7454	ARKA				R SQAR BAR=	.991	DURBIN WAT=	1.238
EGLS			(1.63)	XGLS		(4.28)	EGLL				AVER % ERR=	1.76	ESTIMATION=	OLS
CALF	-4.51	+	.0198	CALF	+	.8080	CALF	+	.0497	CALF	R SQAR BAR=	.996	DURBIN WAT=	1.925
EGLS			(1.69)	XGLS		(6.74)	EGLL		(1.29)	UT1	AVER % ERR=	1.09	ESTIMATION=	OLS
COLO	3.46	+	.0241	COLO	+	.4539	COLO	+	2.0110	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.732
EGLS			(1.53)	XGLS		(1.88)	EGLL		(1.86)	TIME	AVER % ERR=	1.05	ESTIMATION=	OLS
CONN	.88	+	.0177	CONN	+	.5461	CONN	+	1.6868	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.798
EGLS			(1.97)	XGLS		(3.94)	EGLL		(2.21)	TIME	AVER % ERR=	1.23	ESTIMATION=	OLS
DELA	-1.24	+	.0634	DELA	+	.5094	DELA	+	.2191	DELA	R SQAR BAR=	.990	DURBIN WAT=	2.218
EGLS			(3.35)	XGLS		(3.16)	EGLL		(2.94)	UT1	AVER % ERR=	2.39	ESTIMATION=	OLS
D.C.	3.07	+	.0826	D.C.							R SQAR BAR=	.975	DURBIN WAT=	1.445
EGLS			(10.65)	XGLS							AVER % ERR=	3.12	ESTIMATION=	C-O
FLOR	-20.57	+	.0589	FLOR	+	8.0873	U.S.	+	.0550	FLOR	R SQAR BAR=	.999	DURBIN WAT=	1.778
EGLS			(6.26)	XGLS		(5.38)	TIME		(2.39)	UT1	AVER % ERR=	.89	ESTIMATION=	OLS
GEOR	2.30	+	.0304	GEOR	+	.8013	GEOR				R SQAR BAR=	.996	DURBIN WAT=	1.949
EGLS			(1.25)	XGLS		(4.02)	EGLL				AVER % ERR=	1.45	ESTIMATION=	OLS
HAWA	-.82	+	.0627	HAWA	+	.4071	HAWA				R SQAR BAR=	.989	DURBIN WAT=	1.241
EGLS			(4.35)	XGLS		(2.78)	EGLL				AVER % ERR=	1.87	ESTIMATION=	OLS
IDAH	.33	+	1.0416	IDAH							R SQAR BAR=	.993	DURBIN WAT=	1.016
EGLS			(50.80)	EGLL							AVER % ERR=	1.89	ESTIMATION=	OLS
ILLI	-28.88	+	.1085	ILLI							R SQAR BAR=	.990	DURBIN WAT=	1.221
EGLS			(10.26)	XGLS							AVER % ERR=	1.70	ESTIMATION=	C-O
INDI	-21.21	+	.0526	INDI	+	.6979	INDI	+	.1155	INDI	R SQAR BAR=	.990	DURBIN WAT=	1.926
EGLS			(2.70)	XGLS		(6.02)	EGLL		(2.39)	UT1	AVER % ERR=	1.58	ESTIMATION=	OLS
IOWA	-12.16	+	.0728	IOWA	+	.5221	IOWA				R SQAR BAR=	.988	DURBIN WAT=	1.680
EGLS			(3.13)	XGLS		(3.39)	EGLL				AVER % ERR=	1.63	ESTIMATION=	OLS
KANS	-3.97	+	.0351	KANS	+	.7950	KANS				R SQAR BAR=	.987	DURBIN WAT=	2.171
EGLS			(2.02)	XGLS		(7.99)	EGLL				AVER % ERR=	1.41	ESTIMATION=	OLS

ESTIMATION FOR: EGLS EMPLOYMENT, GOVERNMENT, STATE & LOCAL (14) LAG DEPENDENT VARIABLE: EGLL

KENT	-3.82	+	.0335	KENT	+	.8127	KENT				R SQAR BAR=	.995	DURBIN WAT=	1.120
EGLS			(1.50)	XGLS		(5.06)	EGLL				AVER % ERR=	1.18	ESTIMATION=	OLS
LOUS	-24.44	+	.0916	LOUS	+	.4708	LOUS				R SQAR BAR=	.996	DURBIN WAT=	1.943
EGLS			(4.42)	XGLS		(3.79)	EGLL				AVER % ERR=	.96	ESTIMATION=	OLS
MAIN	3.88	+	.0673	MAIN	+	.9581	U.S.				R SQAR BAR=	.992	DURBIN WAT=	1.827
EGLS			(3.40)	XGLS		(4.41)	TIME				AVER % ERR=	1.06	ESTIMATION=	C-O
MARY	-8.60	+	.0576	MARY	+	3.8471	U.S.	+	.0547	MARY	R SQAR BAR=	.996	DURBIN WAT=	1.627
EGLS			(3.45)	XGLS		(2.65)	TIME		(1.56)	UT1	AVER % ERR=	1.40	ESTIMATION=	OLS
MASS	11.29	+	.0653	MASS	+	3.8576	U.S.	+	.1156	MASS	R SQAR BAR=	.989	DURBIN WAT=	1.124
EGLS			(2.76)	XGLS		(2.10)	TIME		(3.77)	UT1	AVER % ERR=	1.83	ESTIMATION=	OLS
MICH	-15.02	+	.0324	MICH	+	.7468	MICH				R SQAR BAR=	.989	DURBIN WAT=	1.984
EGLS			(1.77)	XGLS		(4.33)	EGLL				AVER % ERR=	1.78	ESTIMATION=	OLS
MINN	-5.68	+	.0660	MINN	+	.4655	MINN				R SQAR BAR=	.995	DURBIN WAT=	1.867
EGLS			(2.03)	XGLS		(1.85)	EGLL				AVER % ERR=	1.22	ESTIMATION=	C-O
MISS	-5.95	+	.1698	MISS							R SQAR BAR=	.979	DURBIN WAT=	1.075
EGLS			(28.48)	XGLS							AVER % ERR=	2.77	ESTIMATION=	OLS
MISR	1.25	+	.0783	MISR	+	.3812	MISR				R SQAR BAR=	.995	DURBIN WAT=	1.615
EGLS			(4.42)	XGLS		(2.67)	EGLL				AVER % ERR=	1.14	ESTIMATION=	OLS
MONT	-6.12	+	.0521	MONT	+	.7881	MONT				R SQAR BAR=	.986	DURBIN WAT=	2.096
EGLS			(2.18)	XGLS		(5.78)	EGLL				AVER % ERR=	2.00	ESTIMATION=	OLS
NEBR	-6.39	+	.0805	NEBR	+	1.6847	U.S.				R SQAR BAR=	.989	DURBIN WAT=	1.551
EGLS			(2.73)	XGLS		(2.70)	TIME				AVER % ERR=	1.65	ESTIMATION=	C-O
NEVA	-.14	+	.0343	NEVA	+	.7029	NEVA				R SQAR BAR=	.997	DURBIN WAT=	1.259
EGLS			(1.98)	XGLS		(4.30)	EGLL				AVER % ERR=	1.67	ESTIMATION=	OLS
NHAM	.58	+	.0293	NHAM	+	.8199	NHAM	+	.1072	NHAM	R SQAR BAR=	.993	DURBIN WAT=	2.258
EGLS			(1.50)	XGLS		(4.63)	EGLL		(1.62)	UT1	AVER % ERR=	1.32	ESTIMATION=	OLS
NJER	-.11	+	.0583	NJER	+	5.7514	U.S.	+	.1110	NJER	R SQAR BAR=	.997	DURBIN WAT=	1.892
EGLS			(3.82)	XGLS		(3.14)	TIME		(3.94)	UT1	AVER % ERR=	1.16	ESTIMATION=	OLS
NMEX	-3.83	+	.0432	NMEX	+	.7367	NMEX				R SQAR BAR=	.987	DURBIN WAT=	1.673
EGLS			(2.01)	XGLS		(5.40)	EGLL				AVER % ERR=	1.96	ESTIMATION=	OLS
NYOR	-13.08	+	.0708	NYOR	+	.2369	NYOR				R SQAR BAR=	.991	DURBIN WAT=	1.314
EGLS			(4.06)	XGLS		(1.30)	EGLL				AVER % ERR=	1.53	ESTIMATION=	OLS
NCAR	-10.91	+	.0718	NCAR	+	.4925	NCAR	+	.0684	NCAR	R SQAR BAR=	.993	DURBIN WAT=	1.648
EGLS			(3.20)	XGLS		(2.86)	EGLL		(1.92)	UT1	AVER % ERR=	1.69	ESTIMATION=	OLS

ESTIMATION FOR: EGLS EMPLOYMENT, GOVERNMENT, STATE & LOCAL (14) LAG DEPENDENT VARIABLE: EGLL

NDAK	7.35	+	.0579	NDAK	+	1.0270	U.S.				R SQAR BAR=	.956	DURBIN WAT=	1.091
EGLS			(1.44)	XGLS		(4.88)	TIME				AVER % ERR=	2.82	ESTIMATION=	OLS
OHIO	22.00	+	.0324	OHIO	+	.4599	OHIO	+	4.9099	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.691
EGLS			(1.38)	XGLS		(2.18)	EGLL		(1.70)	TIME	AVER % ERR=	1.19	ESTIMATION=	OLS
OKLA	-16.93	+	.0941	OKLA	+	.4651	OKLA				R SQAR BAR=	.996	DURBIN WAT=	1.394
EGLS			(3.56)	XGLS		(2.85)	EGLL				AVER % ERR=	.97	ESTIMATION=	OLS
OREG	-6.14	+	.0332	OREG	+	.7894	OREG				R SQAR BAR=	.998	DURBIN WAT=	2.293
EGLS			(2.54)	XGLS		(7.84)	EGLL				AVER % ERR=	.79	ESTIMATION=	OLS
PENN	80.28	+	.0284	PENN	+	12.4498	U.S.	+	.0361	PENN	R SQAR BAR=	.995	DURBIN WAT=	1.908
EGLS			(1.83)	XGLS		(5.24)	TIME		(2.26)	UT1	AVER % ERR=	1.05	ESTIMATION=	OLS
RHIS	4.00	+	.0549	RHIS	+	.7375	U.S.				R SQAR BAR=	.990	DURBIN WAT=	1.073
EGLS			(2.10)	XGLS		(2.10)	TIME				AVER % ERR=	1.66	ESTIMATION=	OLS
SCAR	3.23	+	.0801	SCAR	+	.4411	SCAR	+	.1086	SCAR	R SQAR BAR=	.995	DURBIN WAT=	1.699
EGLS			(4.40)	XGLS		(3.05)	EGLL		(3.38)	UT1	AVER % ERR=	1.45	ESTIMATION=	OLS
SDAK	3.50	+	.1274	SDAK	+	.2967	U.S.				R SQAR BAR=	.980	DURBIN WAT=	2.804
EGLS			(6.89)	XGLS		(2.45)	TIME				AVER % ERR=	1.58	ESTIMATION=	OLS
TENN	-7.04	+	.0348	TENN	+	.7990	TENN				R SQAR BAR=	.995	DURBIN WAT=	1.783
EGLS			(1.73)	XGLS		(5.56)	EGLL				AVER % ERR=	1.19	ESTIMATION=	OLS
TEXA	-35.03	+	.0521	TEXA	+	.6728	TEXA				R SQAR BAR=	.998	DURBIN WAT=	1.765
EGLS			(2.13)	XGLS		(3.66)	EGLL				AVER % ERR=	1.11	ESTIMATION=	OLS
UTAH	-2.69	+	.0436	UTAH	+	.7460	UTAH				R SQAR BAR=	.997	DURBIN WAT=	2.385
EGLS			(2.57)	XGLS		(7.06)	EGLL				AVER % ERR=	1.07	ESTIMATION=	OLS
VERM	-3.56	+	.1175	VERM	+	.3149	U.S.	+	.3235	VERM	R SQAR BAR=	.984	DURBIN WAT=	1.370
EGLS			(4.22)	XGLS		(1.57)	TIME		(4.63)	UT1	AVER % ERR=	2.67	ESTIMATION=	OLS
VIRG	-4.75	+	.0424	VIRG	+	.6984	VIRG				R SQAR BAR=	.997	DURBIN WAT=	1.299
EGLS			(2.66)	XGLS		(5.06)	EGLL				AVER % ERR=	1.19	ESTIMATION=	OLS
WASH	-19.14	+	.0712	WASH	+	.3634	WASH				R SQAR BAR=	.996	DURBIN WAT=	1.793
EGLS			(4.55)	XGLS		(2.58)	EGLL				AVER % ERR=	1.19	ESTIMATION=	OLS
WVIR	-8.76	+	.0682	WVIR	+	.6144	WVIR				R SQAR BAR=	.994	DURBIN WAT=	1.101
EGLS			(3.51)	XGLS		(5.63)	EGLL				AVER % ERR=	1.20	ESTIMATION=	OLS
WISC	-2.24	+	.0553	WISC	+	.5685	WISC				R SQAR BAR=	.993	DURBIN WAT=	1.144
EGLS			(2.53)	XGLS		(3.40)	EGLL				AVER % ERR=	1.53	ESTIMATION=	OLS
WYOM	-7.40	+	.1242	WYOM	+	.4054	WYOM				R SQAR BAR=	.981	DURBIN WAT=	2.313
EGLS			(3.60)	XGLS		(2.26)	EGLL				AVER % ERR=	2.52	ESTIMATION=	OLS

ESTIMATION FOR: GSFR STATE GOVERNMENT, INTERGOVERNMENTAL REVENUE, FEDERAL (15) LAG DEPENDENT VARIABLE: GSFL

THE ESTIMATION PERIOD IS FROM 1959 TO 1976

ALAB	-29.37	+	.8709	ALAB							R SQAR BAR=	.986	DURBIN WAT=	1.382
GSFR			(34.33)	GT3							AVER % ERR=	5.01	ESTIMATION=	OLS
ALAS	-55.82	+	.5516	ALAS	+	.3505	ALAS	+	6.7101	U.S.	R SQAR BAR=	.927	DURBIN WAT=	1.943
GSFR			(2.11)	GT3		(1.28)	GSFL		(2.17)	TIME	AVER % ERR=	10.90	ESTIMATION=	OLS
ARIS	-18.12	+	.2406	ARIZ	+	.4037	ARIZ	+	3.8250	U.S.	R SQAR BAR=	.988	DURBIN WAT=	2.198
GSFR			(3.83)	GT3		(1.79)	GSFL		(1.68)	TIME	AVER % ERR=	4.37	ESTIMATION=	OLS
ARKA	-28.68	+	.9226	ARKA							R SQAR BAR=	.988	DURBIN WAT=	1.808
GSFR			(37.20)	GT3							AVER % ERR=	4.33	ESTIMATION=	OLS
CALF	723.74	+	.9884	CALF							R SQAR BAR=	.986	DURBIN WAT=	2.161
GSFR			(9.17)	GT4							AVER % ERR=	3.86	ESTIMATION=	C-O
COLO	29.17	+	1.0512	COLO							R SQAR BAR=	.996	DURBIN WAT=	1.289
GSFR			(65.39)	GT4							AVER % ERR=	2.94	ESTIMATION=	OLS
CONN	-15.69	+	.8630	CONN							R SQAR BAR=	.983	DURBIN WAT=	2.027
GSFR			(30.95)	GT4							AVER % ERR=	6.52	ESTIMATION=	OLS
DELA	10.67	+	.8822	DELA	+	.2160	DELA	+	-1.3329	U.S.	R SQAR BAR=	.961	DURBIN WAT=	2.277
GSFR			(4.29)	GT3		(1.03)	GSFL		(1.21)	TIME	AVER % ERR=	9.82	ESTIMATION=	OLS
D.C.			E X O G E N O U S											
FLOR	-30.24	+	.7092	FLOR							R SQAR BAR=	.990	DURBIN WAT=	2.154
GSFR			(40.66)	GT3							AVER % ERR=	4.87	ESTIMATION=	OLS
GEOR	5.75	+	1.0216	GEOR							R SQAR BAR=	.996	DURBIN WAT=	1.663
GSFR			(62.57)	GT4							AVER % ERR=	2.94	ESTIMATION=	OLS
HAWA	5.03	+	.9290	HAWA	+	.4972	HAWA				R SQAR BAR=	.989	DURBIN WAT=	1.938
GSFR			(3.07)	GT4		(2.33)	GSFL				AVER % ERR=	5.25	ESTIMATION=	OLS
IDAH	20.50	+	1.0738	IDAH	+	.1705	IDAH	+	-1.1306	U.S.	R SQAR BAR=	.992	DURBIN WAT=	2.502
GSFR			(6.00)	GT4		(1.00)	GSFL		(1.91)	TIME	AVER % ERR=	3.99	ESTIMATION=	OLS
ILLI	-73.10	+	.7617	ILLI	+	.2932	ILLI				R SQAR BAR=	.965	DURBIN WAT=	2.175
GSFR			(3.88)	GT4		(1.43)	GSFL				AVER % ERR=	7.96	ESTIMATION=	OLS
INDI	8.11	+	.2610	INDI	+	.7095	INDI				R SQAR BAR=	.979	DURBIN WAT=	1.743
GSFR			(2.37)	GT3		(3.60)	GSFL				AVER % ERR=	5.23	ESTIMATION=	OLS
IOWA	2.00	+	.8679	IOWA							R SQAR BAR=	.970	DURBIN WAT=	1.246
GSFR			(10.51)	GT4							AVER % ERR=	6.43	ESTIMATION=	C-O
KANS	22.54	+	.7854	KANS							R SQAR BAR=	.986	DURBIN WAT=	1.243
GSFR			(34.57)	GT4							AVER % ERR=	4.57	ESTIMATION=	OLS

ESTIMATION FOR: GSFR STATE GOVERNMENT, INTERGOVERNMENTAL REVENUE, FEDERAL (15) LAG DEPENDENT VARIABLE: GSFL

KENT	8.62	+	.7741	KENT							R SQAR BAR=	.975	DURBIN WAT=	2.155
GSFR			(25.65)	GT3							AVER % ERR=	6.92	ESTIMATION=	OLS
LOUS	73.38	+	.6931	LOUS	+	.2705	LOUS				R SQAR BAR=	.990	DURBIN WAT=	1.368
GSFR			(4.71)	GT4		(1.47)	GSFL				AVER % ERR=	3.46	ESTIMATION=	OLS
MAIN	14.27	+	1.0516	MAIN	+	.3970	MAIN	+	-2.3051	U.S.	R SQAR BAR=	.985	DURBIN WAT=	2.024
GSFR			(2.21)	GT4		(1.36)	GSFL		(1.18)	TIME	AVER % ERR=	6.32	ESTIMATION=	OLS
MARY	49.65	+	1.0323	MARY	+	.1388	MARY	+	-8.8372	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.210
GSFR			(8.37)	GT3		(1.17)	GSFL		(3.45)	TIME	AVER % ERR=	4.22	ESTIMATION=	OLS
MASS	5.82	+	.9968	MASS							R SQAR BAR=	.995	DURBIN WAT=	1.173
GSFR			(57.99)	GT3							AVER % ERR=	3.91	ESTIMATION=	OLS
MICH	-37.52	+	.2485	MICH	+	.9182	MICH				R SQAR BAR=	.990	DURBIN WAT=	2.256
GSFR			(2.18)	GT3		(7.99)	GSFL				AVER % ERR=	5.00	ESTIMATION=	OLS
MINN	35.88	+	.5003	MINN	+	.3307	MINN				R SQAR BAR=	.993	DURBIN WAT=	1.916
GSFR			(4.74)	GT3		(1.90)	GSFL				AVER % ERR=	4.07	ESTIMATION=	OLS
MISS	9.97	+	1.1692	MISS							R SQAR BAR=	.992	DURBIN WAT=	1.061
GSFR			(45.32)	GT4							AVER % ERR=	4.18	ESTIMATION=	OLS
MISR	88.90	+	.6759	MISR							R SQAR BAR=	.983	DURBIN WAT=	1.752
GSFR			(30.97)	GT4							AVER % ERR=	4.18	ESTIMATION=	OLS
MONT	11.56	+	.8981	MONT	+	.3607	MONT				R SQAR BAR=	.959	DURBIN WAT=	2.116
GSFR			(4.26)	GT3		(1.93)	GSFL				AVER % ERR=	7.65	ESTIMATION=	OLS
NEBR	5.46	+	.8631	NEBR							R SQAR BAR=	.969	DURBIN WAT=	1.349
GSFR			(12.68)	GT4							AVER % ERR=	6.77	ESTIMATION=	C-O
NEVA	20.49	+	.9391	NEVA							R SQAR BAR=	.948	DURBIN WAT=	2.147
GSFR			(8.96)	GT4							AVER % ERR=	8.85	ESTIMATION=	C-O
NHAM	13.62	+	.9555	NHAM	+	.4740	NHAM	+	-1.1426	U.S.	R SQAR BAR=	.969	DURBIN WAT=	2.095
GSFR			(3.57)	GT3		(2.35)	GSFL		(1.26)	TIME	AVER % ERR=	7.03	ESTIMATION=	OLS
NJER	-12.96	+	.9144	NJER	+	.4197	NJER				R SQAR BAR=	.984	DURBIN WAT=	2.178
GSFR			(3.08)	GT3		(1.95)	GSFL				AVER % ERR=	7.07	ESTIMATION=	OLS
NMEX	72.94	+	.9246	NMEX							R SQAR BAR=	.982	DURBIN WAT=	2.115
GSFR			(6.52)	GT4							AVER % ERR=	4.32	ESTIMATION=	C-O
NYOR	-329.02	+	1.2798	NYOR							R SQAR BAR=	.983	DURBIN WAT=	1.097
GSFR			(31.82)	GT3							AVER % ERR=	7.75	ESTIMATION=	OLS
NCAR	-26.43	+	.9163	NCAR							R SQAR BAR=	.968	DURBIN WAT=	2.493
GSFR			(22.70)	GT4							AVER % ERR=	7.57	ESTIMATION=	OLS

ESTIMATION FOR: GSFR STATE GOVERNMENT, INTERGOVERNMENTAL REVENUE, FEDERAL (15) LAG DEPENDENT VARIABLE: GSFL

NDAK	15.01	+	1.0846	NDAK							R SQAR BAR=	.970	DURBIN WAT=	2.286
GSFR			(23.57)	GT4							AVER % ERR=	6.07	ESTIMATION=	OLS
OHIO	14.59	+	.3554	OHIO	+	.6950	OHIO				R SQAR BAR=	.988	DURBIN WAT=	2.827
GSFR			(2.45)	GT3		(3.65)	GSFL				AVER % ERR=	4.94	ESTIMATION=	OLS
OKLA	113.57	+	.7957	OKLA							R SQAR BAR=	.986	DURBIN WAT=	1.837
GSFR			(9.14)	GT4							AVER % ERR=	3.79	ESTIMATION=	C-O
OREG	20.18	+	1.2073	OREG							R SQAR BAR=	.979	DURBIN WAT=	1.553
GSFR			(28.18)	GT4							AVER % ERR=	7.27	ESTIMATION=	OLS
PENN	39.93	+	.3664	PENN	+	.8199	PENN	+	-9.6325	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.366
GSFR			(1.98)	GT4		(4.26)	GSFL		(1.31)	TIME	AVER % ERR=	3.68	ESTIMATION=	OLS
RHIS	-12.46	+	1.2920	RHIS							R SQAR BAR=	.986	DURBIN WAT=	1.707
GSFR			(34.62)	GT4							AVER % ERR=	5.95	ESTIMATION=	OLS
SCAR	64.69	+	.9572	SCAR	+	.3255	SCAR	+	-7.6017	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.485
GSFR			(6.59)	GT4		(2.34)	GSFL		(4.76)	TIME	AVER % ERR=	3.01	ESTIMATION=	OLS
SDAK	16.83	+	1.1254	SDAK							R SQAR BAR=	.975	DURBIN WAT=	1.603
GSFR			(25.51)	GT4							AVER % ERR=	5.68	ESTIMATION=	OLS
TENN	40.45	+	.8367	TENN							R SQAR BAR=	.988	DURBIN WAT=	1.189
GSFR			(36.81)	GT4							AVER % ERR=	4.75	ESTIMATION=	OLS
TEXA	90.57	+	.7651	TEXA							R SQAR BAR=	.996	DURBIN WAT=	1.555
GSFR			(64.11)	GT4							AVER % ERR=	2.80	ESTIMATION=	OLS
UTAH	18.92	+	.9500	UTAH							R SQAR BAR=	.990	DURBIN WAT=	1.374
GSFR			(40.54)	GT3							AVER % ERR=	3.80	ESTIMATION=	OLS
VERM	3.87	+	1.7182	VERM							R SQAR BAR=	.984	DURBIN WAT=	1.711
GSFR			(32.30)	GT4							AVER % ERR=	5.96	ESTIMATION=	OLS
VIRG	-4.21	+	.4760	VIRG	+	.4936	VIRG				R SQAR BAR=	.991	DURBIN WAT=	2.069
GSFR			(3.11)	GT4		(2.40)	GSFL				AVER % ERR=	4.65	ESTIMATION=	OLS
WASH	26.07	+	1.0806	WASH							R SQAR BAR=	.979	DURBIN WAT=	2.598
GSFR			(28.43)	GT4							AVER % ERR=	6.01	ESTIMATION=	OLS
WVIR	-55.10	+	.7461	WVIR	+	.3701	WVIR	+	4.8443	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.776
GSFR			(2.56)	GT4		(1.73)	GSFL		(1.82)	TIME	AVER % ERR=	5.27	ESTIMATION=	OLS
WISC	-143.05	+	1.2185	WISC							R SQAR BAR=	.986	DURBIN WAT=	1.191
GSFR			(13.71)	GT4							AVER % ERR=	5.93	ESTIMATION=	C-O
WYOM	32.43	+	1.3891	WYOM	+	.7909	WYOM	+	-3.2241	U.S.	R SQAR BAR=	.930	DURBIN WAT=	1.865
GSFR			(3.91)	GT3		(2.06)	GSFL		(2.27)	TIME	AVER % ERR=	6.98	ESTIMATION=	OLS

ESTIMATION FOR: GSCR STATE GOVERNMENT, INTERGOVERNMENTAL REVENUE, FROM LOCAL (16) LAG DEPENDENT VARIABLE: GSCL

THE ESTIMATION PERIOD IS FROM 1958 TO 1976

ALAB		E X O G E N O U S						
ALAS		E X O G E N O U S						
ARIS		E X O G E N O U S						
ARKA		E X O G E N O U S						
CALF	-164.78 +	.0326 CALF				R SQAR BAR=	.984	DURBIN WAT= 1.928
GSCR		(16.78) GLE				AVER % ERR=	9.87	ESTIMATION= C-O
COLO		E X O G E N O U S						
CONN		E X O G E N O U S						
DELA		E X O G E N O U S						
D.C.		E X O G E N O U S						
FLOR	3.63 +	.0052 FLOR				R SQAR BAR=	.833	DURBIN WAT= 1.777
GSCR		(9.52) GLE				AVER % ERR=	13.37	ESTIMATION= OLS
GEOR		E X O G E N O U S						
HAWA		E X O G E N O U S						
IDAH		E X O G E N O U S						
ILLI		E X O G E N O U S						
INDI		E X O G E N O U S						
IOWA	9.87 +	.4158 IOWA	+	.4419 U.S.		R SQAR BAR=	.630	DURBIN WAT= 1.809
GSCR		(1.58) GSCL		(1.27) TIME		AVER % ERR=	9.18	ESTIMATION= OLS
KANS		E X O G E N O U S						

ESTIMATION FOR: GSCR STATE GOVERNMENT, INTERGOVERNMENTAL REVENUE, FROM LOCAL (16) LAG DEPENDENT VARIABLE: GSCL

KENT			E X O G E N O U S						
LOUS			E X O G E N O U S						
MAIN			E X O G E N O U S						
MARY	.29	+	.0059 MARY	+	.4232 MARY		R SQAR BAR=	.937	DURBIN WAT= 1.993
GSCR			(2.93) GLE		(1.81) GSCL		AVER % ERR=	10.69	ESTIMATION= OLS
MASS	-8.79	+	.0395 MASS				R SQAR BAR=	.972	DURBIN WAT= 2.235
GSCR			(25.18) GLE				AVER % ERR=	6.91	ESTIMATION= OLS
MICH	5.50	+	.8889 MICH				R SQAR BAR=	.755	DURBIN WAT= 1.604
GSCR			(7.51) GSCL				AVER % ERR=	12.81	ESTIMATION= OLS
MINN	10.65	+	.0286 MINN	+	-1.9488 U.S.		R SQAR BAR=	.819	DURBIN WAT= 1.695
GSCR			(4.53) GLE		(1.88) TIME		AVER % ERR=	18.21	ESTIMATION= OLS
MISS			E X O G E N O U S						
MISR			E X O G E N O U S						
MONT			E X O G E N O U S						
NEBR	7.22	+	.0127 NEBR				R SQAR BAR=	.561	DURBIN WAT= 2.250
GSCR			(4.90) GLE				AVER % ERR=	14.92	ESTIMATION= OLS
NEVA			E X O G E N O U S						
NHAM			E X O G E N O U S						
NJER	10.25	+	.0073 NJER	+	.6139 U.S.		R SQAR BAR=	.928	DURBIN WAT= 1.860
GSCR			(3.65) GLE		(1.11) TIME		AVER % ERR=	8.04	ESTIMATION= OLS
NMEX			E X O G E N O U S						
NYOR			E X O G E N O U S						
NCAR	4.24	+	.0067 NCAR	+	-.2434 U.S.		R SQAR BAR=	.914	DURBIN WAT= 2.302
GSCR			(5.96) GLE		(1.54) TIME		AVER % ERR=	10.98	ESTIMATION= OLS

```
ESTIMATION FOR: GSCR    STATE GOVERNMENT, INTERGOVERNMENTAL REVENUE, FROM LOCAL        (16)        LAG DEPENDENT VARIABLE: GSCL

NDAK                E X O G E N O U S

OHIO       12.93  +     .0092 OHIO  +   -1.1121 U.S.                                  R SQAR BAR=  .704   DURBIN WAT= 1.581
GSCR                ( 3.59) GLE       ( 1.51) TIME                                   AVER % ERR= 17.57   ESTIMATION= OLS

OKLA                E X O G E N O U S

OREG                E X O G E N O U S

PENN       -6.47  +     .0046 PENN  +    2.1917 U.S.                                  R SQAR BAR=  .975   DURBIN WAT= 1.808
GSCR                ( 3.30) GLE       ( 4.91) TIME                                   AVER % ERR=  4.92   ESTIMATION= OLS

RHIS                E X O G E N O U S

SCAR                E X O G E N O U S

SDAK                E X O G E N O U S

TENN        -.86  +     .4954 TENN  +     .4468 U.S.                                  R SQAR BAR=  .636   DURBIN WAT= 1.469
GSCR                ( 1.99) GSCL      ( 1.34) TIME                                   AVER % ERR= 22.02   ESTIMATION= OLS

TEXA                E X O G E N O U S

UTAH                E X O G E N O U S

VERM                E X O G E N O U S

VIRG       -3.11  +     .0137 VIRG                                                    R SQAR BAR=  .930   DURBIN WAT= 1.358
GSCR                (15.44) GLE                                                      AVER % ERR= 12.28   ESTIMATION= OLS

WASH                E X O G E N O U S

WVIR                E X O G E N O U S

WISC       -1.25  +     .2131 WISC  +    1.0687 U.S.                                  R SQAR BAR=  .593   DURBIN WAT= 1.824
GSCR                (  .76) GSCL      ( 2.04) TIME                                   AVER % ERR= 18.76   ESTIMATION= OLS

WYOM                E X O G E N O U S
```

ESTIMATION FOR: GSTR STATE GOVERNMENT, GENERAL REVENUE, TAXES (17)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1960 TO 1976 IN STATES: ALAS HAWA

ALAB	-169.79	+	.0292	ALAB	+	5.7286	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.147
GSTR			(19.63)	GT1M		(2.12)	TIME	AVER % ERR=	1.39	ESTIMATION=	C-O
ALAS			E X O G E N O U S								
ARIS	-80.02	+	.0341	ARIZ				R SQAR BAR=	.990	DURBIN WAT=	1.589
GSTR			(45.63)	GT1M				AVER % ERR=	4.66	ESTIMATION=	OLS
ARKA	-48.07	+	.0305	ARKA				R SQAR BAR=	.997	DURBIN WAT=	1.639
GSTR			(87.68)	GT1M				AVER % ERR=	2.32	ESTIMATION=	OLS
CALF	-1359.73	+	.0429	CALF	+	-106.7860	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.840
GSTR			(17.82)	GT1M		(3.50)	TIME	AVER % ERR=	3.23	ESTIMATION=	OLS
COLO	-72.04	+	.0764	COLO	+	.0145	COLO	R SQAR BAR=	.998	DURBIN WAT=	2.162
GSTR			(11.00)	YT3M		(1.53)	RSM	AVER % ERR=	2.12	ESTIMATION=	OLS
CONN	-294.15	+	.0307	CONN				R SQAR BAR=	.966	DURBIN WAT=	1.559
GSTR			(11.71)	GT1M				AVER % ERR=	7.61	ESTIMATION=	C-O
DELA	-67.93	+	.1396	DELA	+	.5482	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.458
GSTR			(13.76)	YT3M		(.49)	TIME	AVER % ERR=	3.89	ESTIMATION=	OLS
D.C.			E X O G E N O U S								
FLOR	-203.31	+	.0277	FLOR				R SQAR BAR=	.993	DURBIN WAT=	1.170
GSTR			(21.44)	GT1M				AVER % ERR=	3.92	ESTIMATION=	C-O
GEOR	-98.92	+	.0268	GEOR				R SQAR BAR=	.997	DURBIN WAT=	1.184
GSTR			(82.41)	GT1M				AVER % ERR=	2.31	ESTIMATION=	OLS
HAWA	-83.54	+	.0503	HAWA				R SQAR BAR=	.997	DURBIN WAT=	1.207
GSTR			(33.45)	GT1M				AVER % ERR=	2.30	ESTIMATION=	C-O
IDAH	-53.64	+	.0259	IDAH	+	2.9826	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.255
GSTR			(15.86)	GT1M		(4.39)	TIME	AVER % ERR=	4.35	ESTIMATION=	OLS
ILLI	-1502.08	+	.0333	ILLI				R SQAR BAR=	.983	DURBIN WAT=	1.552
GSTR			(12.26)	GT1M				AVER % ERR=	4.79	ESTIMATION=	C-O
INDI	-396.29	+	.0366	INDI	+	-18.2692	U.S.	R SQAR BAR=	.986	DURBIN WAT=	2.069
GSTR			(12.16)	GT1M		(2.25)	TIME	AVER % ERR=	4.69	ESTIMATION=	OLS
IOWA	-233.92	+	.0442	IOWA	+	-13.1137	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.496
GSTR			(20.77)	GT1M		(4.46)	TIME	AVER % ERR=	3.35	ESTIMATION=	OLS
KANS	-130.69	+	.0290	KANS				R SQAR BAR=	.997	DURBIN WAT=	1.774
GSTR			(77.73)	GT1M				AVER % ERR=	2.03	ESTIMATION=	OLS

ESTIMATION FOR: GSTR STATE GOVERNMENT, GENERAL REVENUE, TAXES (17)

KENT	-237.01	+	.0370	KENT				R SQAR BAR=	.996	DURBIN WAT=	1.860
GSTR			(66.86)	GT1M				AVER % ERR=	3.45	ESTIMATION=	OLS
LOUS	-53.46	+	.0317	LOUS				R SQAR BAR=	.995	DURBIN WAT=	1.640
GSTR			(33.85)	GT1M				AVER % ERR=	2.61	ESTIMATION=	C-O
MAIN	-110.87	+	.0595	MAIN	+	-6.9334	U.S.	R SQAR BAR=	.966	DURBIN WAT=	1.486
GSTR			(10.46)	GT1M		(2.80)	TIME	AVER % ERR=	8.65	ESTIMATION=	OLS
MARY	-258.11	+	.0406	MARY	+	-9.8497	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.127
GSTR			(21.56)	GT1M		(2.22)	TIME	AVER % ERR=	3.15	ESTIMATION=	OLS
MASS	-664.11	+	.0525	MASS	+	-44.0998	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.869
GSTR			(16.80)	GT1M		(4.68)	TIME	AVER % ERR=	3.27	ESTIMATION=	OLS
MICH	-1256.58	+	.0213	MICH	+	78.2770	U.S.	R SQAR BAR=	.983	DURBIN WAT=	1.155
GSTR			(1.73)	GT1M		(.92)	TIME	AVER % ERR=	4.71	ESTIMATION=	C-O
MINN	-399.40	+	.0588	MINN	+	-28.4848	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.824
GSTR			(39.64)	GT1M		(8.98)	TIME	AVER % ERR=	2.16	ESTIMATION=	OLS
MISS	-85.42	+	.0382	MISS				R SQAR BAR=	.995	DURBIN WAT=	1.431
GSTR			(22.62)	GT1M				AVER % ERR=	2.67	ESTIMATION=	C-O
MISR	-300.91	+	.0263	MISR				R SQAR BAR=	.992	DURBIN WAT=	1.171
GSTR			(51.15)	GT1M				AVER % ERR=	3.78	ESTIMATION=	OLS
MONT	-55.48	+	.1068	MONT	+	-.2484	U.S.	R SQAR BAR=	.980	DURBIN WAT=	2.106
GSTR			(11.86)	YT3M		(.27)	TIME	AVER % ERR=	5.48	ESTIMATION=	OLS
NEBR	-138.66	+	.0280	NEBR				R SQAR BAR=	.989	DURBIN WAT=	1.750
GSTR			(15.86)	GT1M				AVER % ERR=	4.62	ESTIMATION=	C-O
NEVA	-23.81	+	.0300	NEVA				R SQAR BAR=	.996	DURBIN WAT=	1.678
GSTR			(24.92)	GT1M				AVER % ERR=	3.48	ESTIMATION=	C-O
NHAM	-48.84	+	.0447	NHAM	+	2.9790	U.S.	R SQAR BAR=	.990	DURBIN WAT=	.774
GSTR			(2.70)	YT3M		(1.03)	TIME	AVER % ERR=	4.19	ESTIMATION=	C-O
NJER	-694.47	+	.0258	NJER				R SQAR BAR=	.993	DURBIN WAT=	1.665
GSTR			(17.22)	GT1M				AVER % ERR=	4.25	ESTIMATION=	C-O
NMEX	-104.72	+	.0343	NMEX	+	5.2596	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.740
GSTR			(13.82)	GT1M		(3.31)	TIME	AVER % ERR=	2.73	ESTIMATION=	C-O
NYOR	-3577.10	+	.0546	NYOR	+	-89.7044	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.410
GSTR			(15.95)	GT1M		(2.68)	TIME	AVER % ERR=	2.93	ESTIMATION=	OLS
NCAR	-254.25	+	.0268	NCAR	+	14.1133	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.519
GSTR			(10.52)	GT1M		(1.59)	TIME	AVER % ERR=	1.61	ESTIMATION=	C-O

ESTIMATION FOR: GSTR STATE GOVERNMENT, GENERAL REVENUE, TAXES (17)

NDAK	-40.20	+	.0334	NDAK					R SQAR BAR=	.958	DURBIN WAT=	1.016
GSTR			(21.51)	GT1M					AVER % ERR=	8.55	ESTIMATION=	OLS
OHIO	-509.79	+	.0318	OHIO	+	-49.0473	U.S.		R SQAR BAR=	.990	DURBIN WAT=	1.853
GSTR			(7.24)	GT1M		(1.70)	TIME		AVER % ERR=	3.94	ESTIMATION=	C-O
OKLA	-30.31	+	.0266	OKLA					R SQAR BAR=	.996	DURBIN WAT=	1.714
GSTR			(70.90)	GT1M					AVER % ERR=	2.22	ESTIMATION=	OLS
OREG	-70.36	+	.1084	OREG	+	-5.4826	U.S.		R SQAR BAR=	.994	DURBIN WAT=	2.152
GSTR			(21.64)	YT3M		(3.09)	TIME		AVER % ERR=	3.23	ESTIMATION=	OLS
PENN	-1326.18	+	.0380	PENN					R SQAR BAR=	.987	DURBIN WAT=	1.039
GSTR			(12.52)	GT1M					AVER % ERR=	4.88	ESTIMATION=	C-O
RHIS	-95.18	+	.0383	RHIS					R SQAR BAR=	.992	DURBIN WAT=	1.254
GSTR			(16.52)	GT1M					AVER % ERR=	3.54	ESTIMATION=	C-O
SCAR	-79.08	+	.0332	SCAR					R SQAR BAR=	.997	DURBIN WAT=	1.575
GSTR			(33.63)	GT1M					AVER % ERR=	2.27	ESTIMATION=	C-O
SDAK	-86.44	+	.0312	SDAK	+	.1318	SDAK		R SQAR BAR=	.983	DURBIN WAT=	1.340
GSTR			(2.95)	YT3M		(4.56)	RSM		AVER % ERR=	4.67	ESTIMATION=	C-O
TENN	-79.42	+	.0230	TENN	+	3.3664	U.S.		R SQAR BAR=	.996	DURBIN WAT=	1.076
GSTR			(23.12)	GT1M		(1.59)	TIME		AVER % ERR=	2.43	ESTIMATION=	OLS
TEXA	-413.13	+	.0237	TEXA					R SQAR BAR=	.996	DURBIN WAT=	1.789
GSTR			(36.41)	GT1M					AVER % ERR=	2.97	ESTIMATION=	C-O
UTAH	-69.12	+	.0261	UTAH	+	4.1283	U.S.		R SQAR BAR=	.987	DURBIN WAT=	1.119
GSTR			(11.63)	GT1M		(3.13)	TIME		AVER % ERR=	5.33	ESTIMATION=	OLS
VERM	-30.70	+	.0404	VERM					R SQAR BAR=	.988	DURBIN WAT=	1.693
GSTR			(17.20)	GT1M					AVER % ERR=	3.86	ESTIMATION=	C-O
VIRG	-237.82	+	.0299	VIRG					R SQAR BAR=	.993	DURBIN WAT=	1.084
GSTR			(54.82)	GT1M					AVER % ERR=	4.12	ESTIMATION=	OLS
WASH	-176.16	+	.0314	WASH	+	7.9016	U.S.		R SQAR BAR=	.995	DURBIN WAT=	1.444
GSTR			(17.56)	GT1M		(2.24)	TIME		AVER % ERR=	2.23	ESTIMATION=	OLS
WVIR	-184.60	+	.0412	WVIR	+	2.4310	U.S.		R SQAR BAR=	.994	DURBIN WAT=	1.503
GSTR			(21.26)	GT1M		(1.71)	TIME		AVER % ERR=	3.16	ESTIMATION=	OLS
WISC	-661.08	+	.0377	WISC	+	23.3996	U.S.		R SQAR BAR=	.995	DURBIN WAT=	1.852
GSTR			(7.97)	GT1M		(1.84)	TIME		AVER % ERR=	3.25	ESTIMATION=	C-O
WYOM	-24.37	+	.0314	WYOM					R SQAR BAR=	.988	DURBIN WAT=	1.342
GSTR			(20.58)	GT1M					AVER % ERR=	4.58	ESTIMATION=	C-O

ESTIMATION FOR: GSMR STATE GOVERNMENT. GENERAL REVENUE. CHARGES & MISC. (18) LAG DEPENDENT VARIABLE: GSML

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1962 TO 1976 IN STATES: ALAS HAWA

ALAB	-26.68	+	.0079	ALAB	+	.1675	ALAB	+	.6592	ALAB				R SQAR BAR=	.994	DURBIN WAT=	1.926
GSMR			(2.08)	YM		(1.56)	GSTF		(3.62)	GSML				AVER % ERR=	4.51	ESTIMATION=	OLS
ALAS			E X O G E N O U S														
ARIS	-15.44	+	.0039	ARIZ	+	.0126	ARIZ	+	.7378	ARIZ				R SQAR BAR=	.996	DURBIN WAT=	2.211
GSMR			(1.83)	YM		(1.59)	PM		(4.41)	GSML				AVER % ERR=	3.23	ESTIMATION=	OLS
ARKA	-5.52	+	.0047	ARKA	+	.7155	ARKA							R SQAR BAR=	.996	DURBIN WAT=	2.213
GSMR			(2.79)	YM		(4.51)	GSML							AVER % ERR=	2.74	ESTIMATION=	OLS
CALF	-222.28	+	.0150	CALF	+	-14.0221	U.S.							R SQAR BAR=	.996	DURBIN WAT=	1.242
GSMR			(22.18)	YM		(3.79)	TIME							AVER % ERR=	3.20	ESTIMATION=	OLS
COLO	-19.54	+	.0096	COLO	+	.3022	COLO	+	.5588	COLO				R SQAR BAR=	.996	DURBIN WAT=	2.334
GSMR			(2.81)	YM		(3.66)	GSTF		(3.51)	GSML				AVER % ERR=	2.53	ESTIMATION=	OLS
CONN	-24.52	+	.0061	CONN	+	.0460	CONN	+	.6101	CONN				R SQAR BAR=	.982	DURBIN WAT=	1.774
GSMR			(2.30)	YM		(1.34)	GSTF		(2.95)	GSML				AVER % ERR=	6.90	ESTIMATION=	OLS
DELA	-11.51	+	.0145	DELA	+	.6164	DELA							R SQAR BAR=	.977	DURBIN WAT=	2.015
GSMR			(2.32)	YM		(2.47)	GSML							AVER % ERR=	7.15	ESTIMATION=	OLS
D.C.			E X O G E N O U S														
FLOR	-140.42	+	.0095	FLOR	+	.0378	FLOR	+	.0388	FLOR	+	-8.0503	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.815
GSMR			(10.09)	YM		(1.17)	PM		(1.28)	GSTF		(1.40)	TIME	AVER % ERR=	5.72	ESTIMATION=	OLS
GEOR	-41.81	+	.0122	GEOR										R SQAR BAR=	.996	DURBIN WAT=	1.661
GSMR			(71.64)	YM										AVER % ERR=	3.67	ESTIMATION=	OLS
HAWA	-544.81	+	.0153	HAWA	+	1.0550	HAWA	+	-10.7090	U.S.				R SQAR BAR=	.989	DURBIN WAT=	2.430
GSMR			(1.92)	YM		(4.35)	PM		(4.64)	TIME				AVER % ERR=	4.42	ESTIMATION=	OLS
IDAH	-6.19	+	.0097	IDAH	+	.0840	IDAH	+	.4846	IDAH				R SQAR BAR=	.992	DURBIN WAT=	2.053
GSMR			(4.81)	YM		(1.46)	GSTF		(3.39)	GSML				AVER % ERR=	4.24	ESTIMATION=	OLS
ILLI	-199.71	+	.0141	ILLI	+	.0391	ILLI	+	-9.2638	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.724
GSMR			(12.46)	YM		(1.12)	GSTF		(2.86)	TIME				AVER % ERR=	6.80	ESTIMATION=	OLS
INDI	-285.18	+	.0116	INDI	+	.0518	INDI	+	.1257	INDI	+	.1951	INDI	R SQAR BAR=	.993	DURBIN WAT=	2.141
GSMR			(4.02)	YM		(2.25)	PM		(3.26)	GSTF		(1.12)	GSML	AVER % ERR=	3.40	ESTIMATION=	OLS
IOWA	-34.20	+	.0113	IOWA	+	.3614	IOWA							R SQAR BAR=	.986	DURBIN WAT=	2.119
GSMR			(4.60)	YM		(2.21)	GSML							AVER % ERR=	5.15	ESTIMATION=	OLS
KANS	-6.96	+	.0031	KANS	+	.9006	KANS							R SQAR BAR=	.996	DURBIN WAT=	1.089
GSMR			(1.76)	YM		(7.54)	GSML							AVER % ERR=	3.00	ESTIMATION=	OLS

ESTIMATION FOR: GSMR STATE GOVERNMENT, GENERAL REVENUE, CHARGES & MISC. (18) LAG DEPENDENT VARIABLE: GSML

KENT	-52.52	+	.0158	KENT	+	.3024	KENT				R SQAR BAR=	.996	DURBIN WAT=	2.240
GSMR			(3.70)	YM		(1.35)	GSML				AVER % ERR=	4.02	ESTIMATION=	OLS
LOUS	-26.53	+	.0285	LOUS							R SQAR BAR=	.952	DURBIN WAT=	2.741
GSMR			(19.98)	YM							AVER % ERR=	7.06	ESTIMATION=	OLS
MAIN	-93.95	+	.0243	MAIN	+	.0783	MAIN	+	-.7513	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.427
GSMR			(21.59)	YM		(2.18)	PM		(2.96)	TIME	AVER % ERR=	3.41	ESTIMATION=	OLS
MARY	-17.38	+	.0033	MARY	+	.0778	MARY	+	.8926	MARY	R SQAR BAR=	.996	DURBIN WAT=	.835
GSMR			(1.98)	YM		(1.48)	GSTF		(9.65)	GSML	AVER % ERR=	3.12	ESTIMATION=	OLS
MASS	-31.78	+	.0033	MASS	+	.0782	MASS	+	.8498	MASS	R SQAR BAR=	.983	DURBIN WAT=	1.529
GSMR			(1.42)	YM		(1.35)	GSTF		(5.36)	GSML	AVER % ERR=	6.80	ESTIMATION=	OLS
MICH	-92.21	+	.0084	MICH	+	.0376	MICH	+	.5577	MICH	R SQAR BAR=	.996	DURBIN WAT=	2.102
GSMR			(2.95)	YM		(1.35)	GSTF		(3.12)	GSML	AVER % ERR=	2.55	ESTIMATION=	OLS
MINN	-30.39	+	.0097	MINN	+	.5742	MINN				R SQAR BAR=	.994	DURBIN WAT=	1.867
GSMR			(3.09)	YM		(3.28)	GSML				AVER % ERR=	3.32	ESTIMATION=	OLS
MISS	-16.87	+	.0133	MISS	+	.3581	MISS				R SQAR BAR=	.997	DURBIN WAT=	2.234
GSMR			(4.78)	YM		(2.24)	GSML				AVER % ERR=	2.69	ESTIMATION=	OLS
MISR	-173.02	+	.0097	MISR	+	.0267	MISR				R SQAR BAR=	.991	DURBIN WAT=	1.701
GSMR			(14.49)	YM		(1.41)	PM				AVER % ERR=	5.29	ESTIMATION=	OLS
MONT	-15.42	+	.0239	MONT							R SQAR BAR=	.979	DURBIN WAT=	1.539
GSMR			(30.56)	YM							AVER % ERR=	6.38	ESTIMATION=	OLS
NEBR	-14.48	+	.0099	NEBR	+	.2963	NEBR	+	.3568	NEBR	R SQAR BAR=	.990	DURBIN WAT=	2.192
GSMR			(4.21)	YM		(4.51)	GSTF		(2.30)	GSML	AVER % ERR=	4.81	ESTIMATION=	OLS
NEVA	3.36	+	.0169	NEVA	+	.2961	NEVA	+	-1.0680	U.S.	R SQAR BAR=	.960	DURBIN WAT=	1.524
GSMR			(7.94)	YM		(3.02)	GSTF		(3.05)	TIME	AVER % ERR=	11.39	ESTIMATION=	OLS
NHAM	-8.83	+	.0233	NHAM	+	.1926	NHAM	+	-.9316	U.S.	R SQAR BAR=	.994	DURBIN WAT=	2.032
GSMR			(21.79)	YM		(2.39)	GSTF		(4.60)	TIME	AVER % ERR=	3.82	ESTIMATION=	OLS
NJER	-75.49	+	.0066	NJER	+	.1839	NJER	+	.5772	NJER	R SQAR BAR=	.963	DURBIN WAT=	2.107
GSMR			(2.06)	YM		(1.41)	GSTF		(2.83)	GSML	AVER % ERR=	9.24	ESTIMATION=	OLS
NMEX	-24.25	+	.0227	NMEX	+	.6578	NMEX				R SQAR BAR=	.986	DURBIN WAT=	1.367
GSMR			(3.11)	YM		(3.49)	GSML				AVER % ERR=	5.07	ESTIMATION=	C-O
NYOR	-679.41	+	.0282	NYOR	+	.0780	NYOR	+	-38.1580	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.081
GSMR			(4.42)	YM		(1.44)	GSTF		(1.18)	TIME	AVER % ERR=	6.49	ESTIMATION=	C-O
NCAR	-40.42	+	.0114	NCAR	+	.2969	NCAR				R SQAR BAR=	.996	DURBIN WAT=	2.208
GSMR			(4.42)	YM		(1.60)	GSML				AVER % ERR=	2.85	ESTIMATION=	OLS

ESTIMATION FOR: GSMR STATE GOVERNMENT, GENERAL REVENUE, CHARGES & MISC. (18) LAG DEPENDENT VARIABLE: GSML

NDAK	-5.01	+	.0191	NDAK	+	.6087	NDAK					R SQAR BAR=	.969	DURBIN WAT=	1.709
GSMR			(5.10)	YM		(5.71)	GSML					AVER % ERR=	6.65	ESTIMATION=	OLS
OHIO	-137.49	+	.0091	OHIO	+	.4301	OHIO					R SQAR BAR=	.997	DURBIN WAT=	1.996
GSMR			(4.47)	YM		(2.82)	GSML					AVER % ERR=	2.81	ESTIMATION=	OLS
OKLA	-193.71	+	.0086	OKLA	+	.0794	OKLA	+	.5739	OKLA		R SQAR BAR=	.985	DURBIN WAT=	2.237
GSMR			(2.22)	YM		(1.30)	PM		(2.94)	GSML		AVER % ERR=	5.41	ESTIMATION=	OLS
OREG	23.08	+	.0390	OREG	+	-9.3088	U.S.					R SQAR BAR=	.992	DURBIN WAT=	1.202
GSMR			(8.65)	YM		(2.76)	TIME					AVER % ERR=	4.49	ESTIMATION=	C-O
PENN	-87.41	+	.0055	PENN	+	.0749	PENN	+	.5519	PENN		R SQAR BAR=	.984	DURBIN WAT=	2.771
GSMR			(2.35)	YM		(2.17)	GSTF		(2.74)	GSML		AVER % ERR=	6.06	ESTIMATION=	OLS
RHIS	-22.95	+	.0495	RHIS	+	-5.2262	U.S.					R SQAR BAR=	.996	DURBIN WAT=	2.070
GSMR			(12.27)	YM		(5.19)	TIME					AVER % ERR=	4.24	ESTIMATION=	C-O
SCAR	-795.25	+	.0289	SCAR	+	.3793	SCAR	+	-14.4648	U.S.		R SQAR BAR=	.987	DURBIN WAT=	2.050
GSMR			(14.10)	YM		(3.75)	PM		(5.77)	TIME		AVER % ERR=	5.70	ESTIMATION=	OLS
SDAK	-10.89	+	.0191	SDAK	+	.1272	SDAK	+	.8906	U.S.		R SQAR BAR=	.966	DURBIN WAT=	1.405
GSMR			(5.63)	YM		(.74)	GSTF		(2.02)	TIME		AVER % ERR=	6.75	ESTIMATION=	OLS
TENN	-24.50	+	.0056	TENN	+	.2034	TENN	+	.6010	TENN		R SQAR BAR=	.992	DURBIN WAT=	2.410
GSMR			(2.18)	YM		(3.12)	GSTF		(3.30)	GSML		AVER % ERR=	5.38	ESTIMATION=	OLS
TEXA	-110.06	+	.0176	TEXA	+	-4.5764	U.S.					R SQAR BAR=	.992	DURBIN WAT=	1.407
GSMR			(19.51)	YM		(1.82)	TIME					AVER % ERR=	4.17	ESTIMATION=	OLS
UTAH	-54.05	+	.0126	UTAH	+	3.8809	U.S.					R SQAR BAR=	.989	DURBIN WAT=	2.094
GSMR			(2.94)	YM		(2.98)	TIME					AVER % ERR=	5.62	ESTIMATION=	C-O
VERM	-145.15	+	.0320	VERM	+	.3935	VERM	+	-1.9491	U.S.		R SQAR BAR=	.974	DURBIN WAT=	1.351
GSMR			(3.00)	YM		(1.26)	PM		(1.15)	TIME		AVER % ERR=	8.66	ESTIMATION=	C-O
VIRG	-363.20	+	.0249	VIRG	+	.1001	VIRG	+	-14.0827	U.S.		R SQAR BAR=	.994	DURBIN WAT=	1.605
GSMR			(16.91)	YM		(1.07)	PM		(1.94)	TIME		AVER % ERR=	4.35	ESTIMATION=	OLS
WASH	-393.57	+	.0112	WASH	+	.1334	WASH					R SQAR BAR=	.984	DURBIN WAT=	1.367
GSMR			(3.60)	YM		(2.01)	PM					AVER % ERR=	5.16	ESTIMATION=	C-O
WVIR	-43.60	+	.0121	WVIR	+	.1063	WVIR	+	2.0430	U.S.		R SQAR BAR=	.983	DURBIN WAT=	1.626
GSMR			(3.98)	YM		(2.00)	GSTF		(1.90)	TIME		AVER % ERR=	5.91	ESTIMATION=	C-O
WISC	-286.97	+	.0174	WISC	+	.0471	WISC	+	.0442	WISC		R SQAR BAR=	.998	DURBIN WAT=	1.364
GSMR			(13.50)	YM		(1.23)	PM		(2.00)	GSTF		AVER % ERR=	2.36	ESTIMATION=	C-O
WYOM	-13.04	+	.0099	WYOM	+	.1804	WYOM	+	1.5364	U.S.		R SQAR BAR=	.995	DURBIN WAT=	2.051
GSMR			(4.86)	YM		(3.48)	GSTF		(8.18)	TIME		AVER % ERR=	2.56	ESTIMATION=	C-O

ESTIMATION FOR: GSE STATE GOVERNMENT, EXPENDITURES, TOTAL (19)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1960 TO 1976 IN STATES: ALAS

ALAB	53.59	+	.9401	ALAB	+	.0844	ALAB			R SQAR BAR=	.995	DURBIN WAT=	1.381
GSE			(59.66)	GSR		(1.01)	UT2L			AVER % ERR=	2.82	ESTIMATION=	OLS
ALAS			E X O G E N O U S										
ARIS	4.73	+	.9622	ARIS	+	.0958	ARIZ			R SQAR BAR=	.998	DURBIN WAT=	1.516
GSE			(95.19)	GSR		(2.67)	UT2L			AVER % ERR=	1.94	ESTIMATION=	OLS
ARKA	14.32	+	.9012	ARKA	+	.1613	ARKA			R SQAR BAR=	.994	DURBIN WAT=	1.150
GSE			(51.84)	GSR		(2.95)	UT2L			AVER % ERR=	3.14	ESTIMATION=	OLS
CALF	249.12	+	.9686	CALF	+	.0748	CALF			R SQAR BAR=	.996	DURBIN WAT=	2.423
GSE			(73.81)	GSR		(.13)	UT2			AVER % ERR=	2.68	ESTIMATION=	OLS
COLO	31.50	+	.9189	COLO	+	.0348	COLO			R SQAR BAR=	.996	DURBIN WAT=	1.455
GSE			(66.39)	GSR		(.37)	UT2L			AVER % ERR=	3.18	ESTIMATION=	OLS
CONN	103.33	+	.8949	CONN	+	.4035	CONN			R SQAR BAR=	.993	DURBIN WAT=	2.424
GSE			(50.95)	GSR		(6.65)	UT2			AVER % ERR=	3.57	ESTIMATION=	OLS
DELA	14.39	+	1.0073	DELA	+	.0407	DELA			R SQAR BAR=	.981	DURBIN WAT=	1.596
GSE			(31.19)	GSR		(.92)	UT2			AVER % ERR=	5.98	ESTIMATION=	OLS
D.C.			E X O G E N O U S										
FLOR	7.38	+	.9734	FLOR	+	.4792	FLOR			R SQAR BAR=	.989	DURBIN WAT=	1.638
GSE			(37.43)	GSR		(2.00)	UT2L			AVER % ERR=	4.87	ESTIMATION=	OLS
GEOR	27.36	+	.9484	GEOR	+	.0338	GEOR			R SQAR BAR=	.996	DURBIN WAT=	1.511
GSE			(72.73)	GSR		(.48)	UT2			AVER % ERR=	2.96	ESTIMATION=	OLS
HAWA	-10.57	+	1.1289	HAWA	+	.1870	HAWA			R SQAR BAR=	.995	DURBIN WAT=	1.482
GSE			(62.27)	GSR		(2.68)	UT2L			AVER % ERR=	3.64	ESTIMATION=	OLS
IDAH	-6.17	+	1.0073	IDAH	+	.0470	IDAH			R SQAR BAR=	.996	DURBIN WAT=	1.017
GSE			(70.09)	GSR		(1.67)	UT2			AVER % ERR=	3.17	ESTIMATION=	OLS
ILLI	97.84	+	.9387	ILLI	+	.5693	ILLI			R SQAR BAR=	.994	DURBIN WAT=	1.654
GSE			(50.18)	GSR		(1.70)	UT2L			AVER % ERR=	3.88	ESTIMATION=	OLS
INDI	93.45	+	.8833	INDI	+	.0868	INDI			R SQAR BAR=	.989	DURBIN WAT=	1.667
GSE			(40.06)	GSR		(.75)	UT2L			AVER % ERR=	3.71	ESTIMATION=	OLS
IOWA	22.94	+	.9530	IOWA	+	.4947	IOWA			R SQAR BAR=	.997	DURBIN WAT=	2.705
GSE			(75.36)	GSR		(5.61)	UT2L			AVER % ERR=	2.19	ESTIMATION=	OLS
KANS	14.98	+	.9242	KANS	+	.1310	KANS			R SQAR BAR=	.995	DURBIN WAT=	2.113
GSE			(32.66)	GSR		(1.91)	UT2L			AVER % ERR=	2.65	ESTIMATION=	C-O

ESTIMATION FOR: GSE STATE GOVERNMENT, EXPENDITURES, TOTAL (19)

KENT	98.61	+	.9058	KENT	+	.0992	KENT	R SQAR BAR=	.990	DURBIN WAT=	1.260
GSE			(42.61)	GSR		(1.17)	UT2L	AVER % ERR=	4.71	ESTIMATION=	OLS
LOUS	53.78	+	.9323	LOUS	+	.1102	LOUS	R SQAR BAR=	.996	DURBIN WAT=	1.779
GSE			(69.73)	GSR		(1.37)	UT2	AVER % ERR=	2.30	ESTIMATION=	OLS
MAIN	26.90	+	.8733	MAIN	+	.0679	MAIN	R SQAR BAR=	.994	DURBIN WAT=	2.204
GSE			(55.07)	GSR		(2.46)	UT2	AVER % ERR=	4.18	ESTIMATION=	OLS
MARY	-27.03	+	1.0616	MARY	+	.3246	MARY	R SQAR BAR=	.997	DURBIN WAT=	1.254
GSE			(85.41)	GSR		(3.12)	UT2	AVER % ERR=	2.57	ESTIMATION=	OLS
MASS	68.54	+	.9544	MASS	+	.9306	MASS	R SQAR BAR=	.996	DURBIN WAT=	1.977
GSE			(65.53)	GSR		(7.14)	UT2	AVER % ERR=	3.40	ESTIMATION=	OLS
MICH	67.78	+	.9634	MICH	+	.3694	MICH	R SQAR BAR=	.989	DURBIN WAT=	1.499
GSE			(39.92)	GSR		(2.05)	UT2L	AVER % ERR=	4.97	ESTIMATION=	OLS
MINN	34.36	+	.9218	MINN	+	.4569	MINN	R SQAR BAR=	.994	DURBIN WAT=	1.145
GSE			(55.80)	GSR		(2.31)	UT2L	AVER % ERR=	3.74	ESTIMATION=	OLS
MISS	25.76	+	.9473	MISS	+	.1249	MISS	R SQAR BAR=	.997	DURBIN WAT=	1.488
GSE			(81.02)	GSR		(3.08)	UT2L	AVER % ERR=	2.45	ESTIMATION=	OLS
MISR	24.56	+	.9575	MISR	+	.3697	MISR	R SQAR BAR=	.995	DURBIN WAT=	1.293
GSE			(58.77)	GSR		(3.01)	UT2	AVER % ERR=	2.91	ESTIMATION=	OLS
MONT	6.24	+	.9530	MONT	+	.0723	MONT	R SQAR BAR=	.996	DURBIN WAT=	1.164
GSE			(33.64)	GSR		(3.13)	UT2L	AVER % ERR=	2.46	ESTIMATION=	C-O
NEBR	6.18	+	.9412	NEBR	+	.1145	NEBR	R SQAR BAR=	.994	DURBIN WAT=	1.796
GSE			(56.34)	GSR		(1.82)	UT2	AVER % ERR=	3.68	ESTIMATION=	OLS
NEVA	3.31	+	.9560	NEVA	+	.0154	NEVA	R SQAR BAR=	.996	DURBIN WAT=	1.396
GSE			(65.59)	GSR		(1.03)	UT2L	AVER % ERR=	3.45	ESTIMATION=	OLS
NHAM	9.74	+	1.0464	NHAM	+	.0649	NHAM	R SQAR BAR=	.992	DURBIN WAT=	1.190
GSE			(43.82)	GSR		(2.54)	UT2L	AVER % ERR=	4.31	ESTIMATION=	OLS
NJER	-139.49	+	1.0448	NJER	+	.2953	NJER	R SQAR BAR=	.994	DURBIN WAT=	1.428
GSE			(33.79)	GSR		(1.21)	UT2	AVER % ERR=	3.82	ESTIMATION=	C-O
NMEX	17.80	+	.8715	NMEX				R SQAR BAR=	.998	DURBIN WAT=	1.836
GSE			(95.80)	GSR				AVER % ERR=	1.92	ESTIMATION=	OLS
NYOR	74.03	+	1.0445	NYOR	+	3.5977	NYOR	R SQAR BAR=	.995	DURBIN WAT=	2.520
GSE			(60.34)	GSR		(4.74)	UT2	AVER % ERR=	3.39	ESTIMATION=	OLS
NCAR	6.27	+	.9396	NCAR	+	.3850	NCAR	R SQAR BAR=	.993	DURBIN WAT=	1.498
GSE			(48.62)	GSR		(3.30)	UT2L	AVER % ERR=	3.89	ESTIMATION=	OLS

ESTIMATION FOR: GSE STATE GOVERNMENT, EXPENDITURES, TOTAL (19)

NDAK	27.20	+	.8210	NDAK	+	.0064	NDAK	R SQAR BAR=	.993	DURBIN WAT=	.929
GSE			(51.51)	GSR		(.20)	UT2	AVER % ERR=	3.03	ESTIMATION=	OLS
OHIO	27.35	+	.9841	OHIO	+	.3469	OHIO	R SQAR BAR=	.991	DURBIN WAT=	1.271
GSE			(44.38)	GSR		(1.98)	UT2L	AVER % ERR=	4.43	ESTIMATION=	OLS
OKLA	46.33	+	.9249	OKLA				R SQAR BAR=	.995	DURBIN WAT=	1.196
GSE			(64.51)	GSR				AVER % ERR=	2.69	ESTIMATION=	OLS
OREG	29.10	+	.9696	OREG	+	.1404	OREG	R SQAR BAR=	.996	DURBIN WAT=	1.905
GSE			(65.54)	GSR		(2.39)	UT2L	AVER % ERR=	2.95	ESTIMATION=	OLS
PENN	-16.85	+	1.0211	PENN	+	.5771	PENN	R SQAR BAR=	.994	DURBIN WAT=	1.650
GSE			(53.66)	GSR		(2.00)	UT2	AVER % ERR=	4.24	ESTIMATION=	OLS
RHIS	32.83	+	.9085	RHIS	+	.0320	RHIS	R SQAR BAR=	.994	DURBIN WAT=	1.469
GSE			(19.35)	GSR		(1.57)	UT2L	AVER % ERR=	3.06	ESTIMATION=	C-O
SCAR	-22.48	+	1.0095	SCAR	+	.1608	SCAR	R SQAR BAR=	.993	DURBIN WAT=	1.320
GSE			(46.39)	GSR		(2.27)	UT2L	AVER % ERR=	4.15	ESTIMATION=	OLS
SDAK	.26	+	.9914	SDAK	+	.0560	SDAK	R SQAR BAR=	.997	DURBIN WAT=	1.730
GSE			(77.99)	GSR		(1.79)	UT2L	AVER % ERR=	2.25	ESTIMATION=	OLS
TENN	1.87	+	.9956	TENN	+	.2990	TENN	R SQAR BAR=	.992	DURBIN WAT=	1.606
GSE			(43.63)	GSR		(2.99)	UT2L	AVER % ERR=	4.20	ESTIMATION=	OLS
TEXA	54.34	+	.8993	TEXA	+	.5931	TEXA	R SQAR BAR=	.997	DURBIN WAT=	1.104
GSE			(76.44)	GSR		(2.18)	UT2L	AVER % ERR=	2.52	ESTIMATION=	OLS
UTAH	16.06	+	.9547	UTAH	+	.0500	UTAH	R SQAR BAR=	.997	DURBIN WAT=	1.268
GSE			(75.69)	GSR		(1.04)	UT2L	AVER % ERR=	2.61	ESTIMATION=	OLS
VERM	8.70	+	.9579	VERM	+	.0315	VERM	R SQAR BAR=	.995	DURBIN WAT=	1.055
GSE			(58.65)	GSR		(2.07)	UT2	AVER % ERR=	3.82	ESTIMATION=	OLS
VIRG	22.85	+	.9597	VIRG	+	.2850	VIRG	R SQAR BAR=	.997	DURBIN WAT=	1.248
GSE			(73.94)	GSR		(1.90)	UT2	AVER % ERR=	3.17	ESTIMATION=	OLS
WASH	1.03	+	1.0027	WASH	+	.2761	WASH	R SQAR BAR=	.995	DURBIN WAT=	2.036
GSE			(60.03)	GSR		(2.92)	UT2	AVER % ERR=	2.84	ESTIMATION=	OLS
WVIR	21.98	+	.9642	WVIR	+	.0127	WVIR	R SQAR BAR=	.995	DURBIN WAT=	1.417
GSE			(61.43)	GSR		(.62)	UT2L	AVER % ERR=	3.21	ESTIMATION=	OLS
WISC	42.55	+	.9586	WISC	+	.1029	WISC	R SQAR BAR=	.994	DURBIN WAT=	2.344
GSE			(57.12)	GSR		(.47)	UT2	AVER % ERR=	3.26	ESTIMATION=	OLS
WYOM	5.02	+	.9292	WYOM	+	.0031	WYOM	R SQAR BAR=	.988	DURBIN WAT=	1.288
GSE			(39.99)	GSR		(.13)	UT2L	AVER % ERR=	4.15	ESTIMATION=	OLS

ESTIMATION FOR: GSXE STATE GOVERNMENT, EXPENDITURES, TO LOCAL GOVERNMENTS (20) LAG DEPENDENT VARIABLE: GSXL

THE ESTIMATION PERIOD IS FROM 1958 TO 1977

ALAB	33.45	+	.2424	ALAB	+	.2069	ALAB					R SQAR BAR=	.991	DURBIN WAT=	2.331
GSXE			(23.60)	GSE		(1.98)	GLEF					AVER % ERR=	3.32	ESTIMATION=	OLS
ALAS	-23.10	+	.2226	ALAS								R SQAR BAR=	.987	DURBIN WAT=	2.548
GSXE			(14.98)	GSE								AVER % ERR=	7.58	ESTIMATION=	C-O
ARIS	-26.00	+	.2574	ARIS	+	.3543	ARIZ	+	.3257	ARIZ		R SQAR BAR=	.992	DURBIN WAT=	1.537
GSXE			(3.22)	GSE		(1.82)	GLEF		(1.97)	GSXL		AVER % ERR=	5.05	ESTIMATION=	OLS
ARKA	-16.69	+	.3010	ARKA								R SQAR BAR=	.993	DURBIN WAT=	1.998
GSXE			(52.35)	GSE								AVER % ERR=	3.93	ESTIMATION=	OLS
CALF	-149.20	+	.3733	CALF	+	.2686	CALF					R SQAR BAR=	.988	DURBIN WAT=	1.559
GSXE			(4.36)	GSE		(1.43)	GSXL					AVER % ERR=	3.58	ESTIMATION=	OLS
COLO	.37	+	.0974	COLO	+	.2410	COLO	+	.7051	COLO		R SQAR BAR=	.993	DURBIN WAT=	2.337
GSXE			(1.76)	GSE		(3.24)	GLEF		(4.27)	GSXL		AVER % ERR=	3.09	ESTIMATION=	OLS
CONN	-17.52	+	.0943	CONN	+	.2284	CONN	+	.5640	CONN		R SQAR BAR=	.993	DURBIN WAT=	2.366
GSXE			(2.58)	GSE		(3.53)	GLEF		(3.51)	GSXL		AVER % ERR=	3.89	ESTIMATION=	OLS
DELA	1.15	+	.1980	DELA	+	.1118	DELA	+	.2657	DELA		R SQAR BAR=	.976	DURBIN WAT=	1.361
GSXE			(3.47)	GSE		(1.04)	GLEF		(1.24)	GSXL		AVER % ERR=	6.73	ESTIMATION=	OLS
D.C.			E X O G E N O U S												
FLOR	-82.78	+	.3032	FLOR	+	.1131	FLOR	+	.2981	FLOR		R SQAR BAR=	.995	DURBIN WAT=	1.460
GSXE			(6.43)	GSE		(1.49)	GLEF		(2.68)	GSXL		AVER % ERR=	3.81	ESTIMATION=	OLS
GEOR	42.84	+	.2648	GEOR								R SQAR BAR=	.978	DURBIN WAT=	2.102
GSXE			(28.25)	GSE								AVER % ERR=	5.80	ESTIMATION=	OLS
HAWA	25.95	+	.0020	HAWA								R SQAR BAR=	-.002	DURBIN WAT=	2.522
GSXE			(.98)	GSE								AVER % ERR=	8.68	ESTIMATION=	OLS
IDAH	-9.32	+	.2066	IDAH	+	.3882	IDAH					R SQAR BAR=	.991	DURBIN WAT=	1.877
GSXE			(3.96)	GSE		(1.94)	GSXL					AVER % ERR=	4.94	ESTIMATION=	OLS
ILLI	-47.32	+	.2475	ILLI	+	.2679	ILLI					R SQAR BAR=	.994	DURBIN WAT=	1.867
GSXE			(4.05)	GSE		(1.31)	GSXL					AVER % ERR=	3.68	ESTIMATION=	OLS
INDI	-51.40	+	.2235	INDI	+	.2027	INDI	+	.4846	INDI		R SQAR BAR=	.985	DURBIN WAT=	.967
GSXE			(2.51)	GSE		(1.13)	GLEF		(2.08)	GSXL		AVER % ERR=	5.59	ESTIMATION=	OLS
IOWA	-53.06	+	.2359	IOWA	+	.5086	IOWA					R SQAR BAR=	.997	DURBIN WAT=	2.624
GSXE			(5.81)	GSE		(4.40)	GSXL					AVER % ERR=	2.80	ESTIMATION=	OLS
KANS	26.35	+	.0794	KANS	+	.4179	KANS	+	.5255	KANS		R SQAR BAR=	.956	DURBIN WAT=	2.159
GSXE			(1.39)	GSE		(2.70)	GLEF		(2.65)	GSXL		AVER % ERR=	6.56	ESTIMATION=	OLS

ESTIMATION FOR: GSXE STATE GOVERNMENT, EXPENDITURES, TO LOCAL GOVERNMENTS (20) LAG DEPENDENT VARIABLE: GSXL

KENT	-13.15	+	.1775	KENT	+	.1471	KENT	+	.2124	KENT	R SQAR BAR=	.996	DURBIN WAT=	2.191
GSXE			(4.22)	GSE		(2.17)	GLEF		(1.03)	GSXL	AVER % ERR=	2.99	ESTIMATION=	OLS
LOUS	-11.69	+	.2341	LOUS	+	.0840	LOUS	+	.2363	LOUS	R SQAR BAR=	.998	DURBIN WAT=	1.465
GSXE			(4.57)	GSE		(2.05)	GSRF		(1.32)	GSXL	AVER % ERR=	1.77	ESTIMATION=	OLS
MAIN	-21.77	+	.1814	MAIN	+	.4399	MAIN				R SQAR BAR=	.931	DURBIN WAT=	1.707
GSXE			(4.22)	GSE		(2.56)	GSXL				AVER % ERR=	14.98	ESTIMATION=	OLS
MARY	15.84	+	.3857	MARY	+	.1596	MARY				R SQAR BAR=	.998	DURBIN WAT=	1.690
GSXE			(52.93)	GSE		(2.73)	GLEF				AVER % ERR=	1.86	ESTIMATION=	OLS
MASS	71.67	+	.1042	MASS	+	.5336	MASS				R SQAR BAR=	.867	DURBIN WAT=	1.985
GSXE			(2.74)	GSE		(2.70)	GSXL				AVER % ERR=	11.80	ESTIMATION=	OLS
MICH	112.71	+	.3287	MICH							R SQAR BAR=	.994	DURBIN WAT=	1.956
GSXE			(55.52)	GSE							AVER % ERR=	3.14	ESTIMATION=	OLS
MINN	-4.18	+	.1265	MINN	+	.3467	MINN	+	.7285	MINN	R SQAR BAR=	.988	DURBIN WAT=	1.634
GSXE			(1.27)	GSE		(1.69)	GLEF		(3.66)	GSXL	AVER % ERR=	4.57	ESTIMATION=	OLS
MISS	-2.71	+	.3384	MISS							R SQAR BAR=	.997	DURBIN WAT=	1.286
GSXE			(71.95)	GSE							AVER % ERR=	2.52	ESTIMATION=	OLS
MISR	-24.45	+	.1458	MISR	+	.5800	MISR				R SQAR BAR=	.988	DURBIN WAT=	1.806
GSXE			(2.39)	GSE		(2.79)	GSXL				AVER % ERR=	4.77	ESTIMATION=	OLS
MONT	-10.82	+	.1102	MONT	+	.7392	MONT				R SQAR BAR=	.980	DURBIN WAT=	1.860
GSXE			(2.37)	GSE		(3.80)	GSXL				AVER % ERR=	7.90	ESTIMATION=	OLS
NEBR	-2.80	+	.1843	NEBR	+	.1090	NEBR	+	.3034	NEBR	R SQAR BAR=	.976	DURBIN WAT=	1.873
GSXE			(2.54)	GSE		(1.75)	GLEF		(1.09)	GSXL	AVER % ERR=	6.22	ESTIMATION=	OLS
NEVA	-8.48	+	.3367	NEVA							R SQAR BAR=	.992	DURBIN WAT=	1.849
GSXE			(47.41)	GSE							AVER % ERR=	4.79	ESTIMATION=	OLS
NHAM	-11.16	+	.1770	NHAM							R SQAR BAR=	.978	DURBIN WAT=	1.749
GSXE			(28.27)	GSE							AVER % ERR=	9.85	ESTIMATION=	OLS
NJER	-36.37	+	.2700	NJER	+	.2034	NJER	+	.1942	NJER	R SQAR BAR=	.997	DURBIN WAT=	2.367
GSXE			(6.03)	GSE		(3.65)	GLEF		(1.42)	GSXL	AVER % ERR=	3.31	ESTIMATION=	OLS
NMEX	-11.89	+	.1533	NMEX	+	.6952	NMEX				R SQAR BAR=	.997	DURBIN WAT=	1.929
GSXE			(2.62)	GSE		(3.99)	GSXL				AVER % ERR=	2.75	ESTIMATION=	OLS
NYOR	-369.82	+	.5911	NYOR	+	.1133	NYOR				R SQAR BAR=	.999	DURBIN WAT=	2.019
GSXE			(99.99)	GSE		(3.25)	GLEF				AVER % ERR=	1.33	ESTIMATION=	OLS
NCAR	-20.63	+	.2530	NCAR	+	.4674	NCAR				R SQAR BAR=	.990	DURBIN WAT=	1.866
GSXE			(3.26)	GSE		(2.40)	GSXL				AVER % ERR=	4.77	ESTIMATION=	OLS

ESTIMATION FOR: GSXE STATE GOVERNMENT, EXPENDITURES, TO LOCAL GOVERNMENTS (20) LAG DEPENDENT VARIABLE: GSXL

NDAK	-18.89	+	.2698	NDAK	+	.2301	NDAK				R SQAR BAR=	.983	DURBIN WAT=	1.587
GSXE			(22.99)	GSE		(2.12)	GLEF				AVER % ERR=	6.12	ESTIMATION=	OLS
OHIO	-64.81	+	.1183	OHIO	+	.8152	OHIO				R SQAR BAR=	.992	DURBIN WAT=	1.853
GSXE			3.32)	GSE		(6.73)	GSXL				AVER % ERR=	4.16	ESTIMATION=	OLS
OKLA	-79.85	+	.3001	OKLA	+	.2020	OKLA				R SQAR BAR=	.993	DURBIN WAT=	2.062
GSXE			(12.03)	GSE		(2.75)	GLEF				AVER % ERR=	3.43	ESTIMATION=	C-O
OREG	-10.93	+	.1424	OREG	+	.5413	OREG				R SQAR BAR=	.991	DURBIN WAT=	1.774
GSXE			(2.66)	GSE		(2.22)	GSXL				AVER % ERR=	4.05	ESTIMATION=	OLS
PENN	-57.96	+	.3019	PENN							R SQAR BAR=	.988	DURBIN WAT=	.800
GSXE			(39.14)	GSE							AVER % ERR=	5.50	ESTIMATION=	OLS
RHIS	-.80	+	.0626	RHIS	+	.1175	RHIS	+	.6794	RHIS	R SQAR BAR=	.994	DURBIN WAT=	1.471
GSXE			(2.42)	GSE		(1.37)	GLEF		(4.58)	GSXL	AVER % ERR=	2.94	ESTIMATION=	OLS
SCAR	13.73	+	.0485	SCAR	+	.5226	SCAR	+	.7031	SCAR	R SQAR BAR=	.997	DURBIN WAT=	2.386
GSXE			(2.10)	GSE		(6.45)	GLEF		(7.15)	GSXL	AVER % ERR=	2.15	ESTIMATION=	OLS
SDAK	-7.69	+	.1575	SDAK	+	.1016	SDAK				R SQAR BAR=	.962	DURBIN WAT=	.934
GSXE			(19.01)	GSE		(1.31)	GLEF				AVER % ERR=	8.70	ESTIMATION=	OLS
TENN	43.68	+	.2620	TENN							R SQAR BAR=	.995	DURBIN WAT=	1.384
GSXE			(60.31)	GSE							AVER % ERR=	2.66	ESTIMATION=	OLS
TEXA	-12.05	+	.2984	TEXA							R SQAR BAR=	.995	DURBIN WAT=	1.664
GSXE			(60.47)	GSE							AVER % ERR=	3.45	ESTIMATION=	OLS
UTAH	-3.63	+	.2664	UTAH	+	.1888	UTAH				R SQAR BAR=	.990	DURBIN WAT=	1.414
GSXE			(23.74)	GSE		(2.08)	GLEF				AVER % ERR=	4.11	ESTIMATION=	OLS
VERM	-1.56	+	.0954	VERM	+	.3819	VERM				R SQAR BAR=	.953	DURBIN WAT=	1.658
GSXE			(3.34)	GSE		(1.93)	GSXL				AVER % ERR=	8.54	ESTIMATION=	OLS
VIRG	-.71	+	.1876	VIRG	+	.4267	VIRG				R SQAR BAR=	.994	DURBIN WAT=	1.613
GSXE			(2.46)	GSE		(1.57)	GSXL				AVER % ERR=	3.48	ESTIMATION=	OLS
WASH	-1.65	+	.1909	WASH	+	.4379	WASH				R SQAR BAR=	.976	DURBIN WAT=	2.094
GSXE			(2.72)	GSE		(1.73)	GSXL				AVER % ERR=	4.53	ESTIMATION=	OLS
WVIR	-14.33	+	.0694	WVIR	+	.8887	WVIR				R SQAR BAR=	.982	DURBIN WAT=	2.144
GSXE			(1.51)	GSE		(3.93)	GSXL				AVER % ERR=	5.84	ESTIMATION=	OLS
WISC	13.51	+	.4754	WISC							R SQAR BAR=	.990	DURBIN WAT=	1.217
GSXE			(41.39)	GSE							AVER % ERR=	4.93	ESTIMATION=	OLS
WYOM	-4.69	+	.1540	WYOM	+	.5351	WYOM				R SQAR BAR=	.989	DURBIN WAT=	1.783
GSXE			(6.90)	GSE		(5.58)	GSXL				AVER % ERR=	4.49	ESTIMATION=	OLS

ESTIMATION FOR: GLFR LOCAL GOVERNMENT, INTERGOVERNMENTAL REVENUE, FEDERAL (21) LAG DEPENDENT VARIABLE: GLFL

THE ESTIMATION PERIOD IS FROM 1959 TO 1976

ALAB	5.84	+	.7229	ALAB							R SQAR BAR=	.950	DURBIN WAT=	2.480
GLFR			(24.75)	GT6							AVER % ERR=	13.31	ESTIMATION=	C-O
ALAS	.89	+	1.2831	ALAS							R SQAR BAR=	.897	DURBIN WAT=	2.067
GLFR			(12.20)	GT6							AVER % ERR=	18.18	ESTIMATION=	OLS
ARIS	3.23	+	.9767	ARIZ							R SQAR BAR=	.987	DURBIN WAT=	2.118
GLFR			(36.66)	GT6							AVER % ERR=	9.18	ESTIMATION=	OLS
ARKA	6.34	+	.7306	ARKA	+	.2269	ARKA	+	-.6286	U.S.	R SQAR BAR=	.979	DURBIN WAT=	2.795
GLFR			(6.38)	GT6		(1.57)	GLFL		(1.48)	TIME	AVER % ERR=	9.75	ESTIMATION=	OLS
CALF	17.57	+	.8974	CALF							R SQAR BAR=	.984	DURBIN WAT=	1.963
GLFR			(32.32)	GT5							AVER % ERR=	8.34	ESTIMATION=	OLS
COLO	3.74	+	.9219	COLO							R SQAR BAR=	.986	DURBIN WAT=	2.374
GLFR			(34.17)	GT6							AVER % ERR=	9.66	ESTIMATION=	OLS
CONN	9.80	+	.6887	CONN	+	.1912	CONN				R SQAR BAR=	.984	DURBIN WAT=	1.830
GLFR			(8.28)	GT5		(1.58)	GLFL				AVER % ERR=	8.72	ESTIMATION=	OLS
DELA	-1.75	+	1.3243	DELA							R SQAR BAR=	.983	DURBIN WAT=	2.075
GLFR			(31.76)	GT6							AVER % ERR=	12.73	ESTIMATION=	OLS
D.C.	-79.59	+	7.0397	U.S.	+	.9691	D.C.				R SQAR BAR=	.985	DURBIN WAT=	1.148
GLFR			(2.09)	TIME		(12.54)	GLFL				AVER % ERR=	7.32	ESTIMATION=	OLS
FLOR	8.82	+	1.0615	FLOR	+	.1892	FLOR	+	-1.2652	U.S.	R SQAR BAR=	.987	DURBIN WAT=	2.819
GLFR			(7.58)	GT5		(1.27)	GLFL		(1.00)	TIME	AVER % ERR=	8.10	ESTIMATION=	OLS
GEOR	4.02	+	1.0526	GEOR							R SQAR BAR=	.983	DURBIN WAT=	2.311
GLFR			(31.53)	GT5							AVER % ERR=	10.23	ESTIMATION=	OLS
HAWA	-2.48	+	2.3030	HAWA							R SQAR BAR=	.908	DURBIN WAT=	1.283
GLFR			(12.96)	GT5							AVER % ERR=	27.63	ESTIMATION=	OLS
IDAH	-1.12	+	.7739	IDAH							R SQAR BAR=	.951	DURBIN WAT=	2.079
GLFR			(18.18)	GT6							AVER % ERR=	20.54	ESTIMATION=	OLS
ILLI	24.16	+	.7401	ILLI	+	.1672	ILLI				R SQAR BAR=	.985	DURBIN WAT=	1.827
GLFR			(6.35)	GT5		(1.23)	GLFL				AVER % ERR=	8.41	ESTIMATION=	C-O
INDI	19.67	+	.6651	INDI	+	.2839	INDI	+	-2.0435	U.S.	R SQAR BAR=	.988	DURBIN WAT=	2.947
GLFR			(9.03)	GT5		(3.17)	GLFL		(2.93)	TIME	AVER % ERR=	9.64	ESTIMATION=	OLS
IOWA	11.14	+	.7073	IOWA	+	.4774	IOWA	+	-1.3053	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.571
GLFR			(7.46)	GT6		(4.97)	GLFL		(2.44)	TIME	AVER % ERR=	10.81	ESTIMATION=	OLS
KANS	2.25	+	.7280	KANS							R SQAR BAR=	.975	DURBIN WAT=	1.910
GLFR			(25.56)	GT6							AVER % ERR=	10.71	ESTIMATION=	OLS

ESTIMATION FOR: GLFR LOCAL GOVERNMENT, INTERGOVERNMENTAL REVENUE, FEDERAL (21) LAG DEPENDENT VARIABLE: GLFL

KENT	.61	+	1.0511	KENT	+	.2470	KENT			R SQAR BAR=	.962	DURBIN WAT=	1.328
GLFR			(5.20)	GT5		(1.44)	GLFL			AVER % ERR=	12.69	ESTIMATION=	OLS
LOUS	-7.17	+	.9659	LOUS						R SQAR BAR=	.984	DURBIN WAT=	2.174
GLFR			(32.52)	GT6						AVER % ERR=	11.39	ESTIMATION=	OLS
MAIN	3.86	+	.6781	MAIN	+	.1458	MAIN	+	-.2950 U.S.	R SQAR BAR=	.975	DURBIN WAT=	2.156
GLFR			(7.14)	GT6		(1.09)	GLFL		(1.49) TIME	AVER % ERR=	11.63	ESTIMATION=	OLS
MARY	1.88	+	1.2654	MARY						R SQAR BAR=	.978	DURBIN WAT=	2.830
GLFR			(27.27)	GT6						AVER % ERR=	9.29	ESTIMATION=	OLS
MASS	-3.12	+	1.1693	MASS						R SQAR BAR=	.975	DURBIN WAT=	2.480
GLFR			(25.62)	GT6						AVER % ERR=	11.96	ESTIMATION=	OLS
MICH	-29.82	+	1.2238	MICH						R SQAR BAR=	.978	DURBIN WAT=	1.692
GLFR			(27.21)	GT6						AVER % ERR=	12.96	ESTIMATION=	OLS
MINN	-17.62	+	1.0971	MINN						R SQAR BAR=	.988	DURBIN WAT=	1.623
GLFR			(22.47)	GT6						AVER % ERR=	10.02	ESTIMATION=	C-O
MISS	-14.15	+	1.3087	MISS						R SQAR BAR=	.934	DURBIN WAT=	2.218
GLFR			(15.50)	GT5						AVER % ERR=	23.32	ESTIMATION=	OLS
MISR	-4.10	+	.8780	MISR						R SQAR BAR=	.990	DURBIN WAT=	1.693
GLFR			(41.38)	GT6						AVER % ERR=	8.46	ESTIMATION=	OLS
MONT	.29	+	.9183	MONT						R SQAR BAR=	.915	DURBIN WAT=	1.806
GLFR			(13.53)	GT6						AVER % ERR=	22.47	ESTIMATION=	OLS
NEBR	-1.00	+	.8348	NEBR						R SQAR BAR=	.993	DURBIN WAT=	1.802
GLFR			(50.36)	GT6						AVER % ERR=	7.47	ESTIMATION=	OLS
NEVA	1.37	+	.6034	NEVA	+	.4450	NEVA			R SQAR BAR=	.981	DURBIN WAT=	2.573
GLFR			(5.57)	GT5		(3.24)	GLFL			AVER % ERR=	10.43	ESTIMATION=	OLS
NHAM	-.17	+	.6527	NHAM						R SQAR BAR=	.936	DURBIN WAT=	2.102
GLFR			(15.81)	GT5						AVER % ERR=	17.78	ESTIMATION=	OLS
NJER	-7.49	+	1.3970	NJER						R SQAR BAR=	.964	DURBIN WAT=	2.131
GLFR			(32.52)	GLFL						AVER % ERR=	12.73	ESTIMATION=	C-O
NMEX	5.29	+	2.6379	NMEX						R SQAR BAR=	.937	DURBIN WAT=	1.111
GLFR			(15.90)	GT5						AVER % ERR=	13.95	ESTIMATION=	OLS
NYOR	.52	+	.7678	NYOR						R SQAR BAR=	.989	DURBIN WAT=	1.812
GLFR			(39.23)	GT5						AVER % ERR=	8.58	ESTIMATION=	OLS
NCAR	-6.93	+	1.2857	NCAR						R SQAR BAR=	.999	DURBIN WAT=	1.935
GLFR			(99.99)	GT5						AVER % ERR=	3.05	ESTIMATION=	C-O

ESTIMATION FOR: GLFR LOCAL GOVERNMENT, INTERGOVERNMENTAL REVENUE, FEDERAL (21) LAG DEPENDENT VARIABLE: GLFL

NDAK	.60	+	.8291 NDAK						R SQAR BAR=	.865	DURBIN WAT= 1.360
GLFR			(10.49) GT6						AVER % ERR=	24.08	ESTIMATION= OLS
OHIO	1.63	+	.6631 OHIO	+	.1291 OHIO				R SQAR BAR=	.989	DURBIN WAT= 2.063
GLFR			(8.80) GT6		(1.09) GLFL				AVER % ERR=	7.44	ESTIMATION= OLS
OKLA	17.30	+	.7571 OKLA	+	.2507 OKLA	+	-1.0145 U.S.		R SQAR BAR=	.980	DURBIN WAT= 1.998
GLFR			(7.16) GT6		(2.00) GLFL		(1.82) TIME		AVER % ERR=	9.54	ESTIMATION= OLS
OREG	7.55	+	1.4367 OREG						R SQAR BAR=	.895	DURBIN WAT= 2.894
GLFR			(12.05) GT6						AVER % ERR=	16.34	ESTIMATION= OLS
PENN	-.01	+	1.0336 PENN						R SQAR BAR=	.983	DURBIN WAT= 2.732
GLFR			(31.07) GT6						AVER % ERR=	8.89	ESTIMATION= OLS
RHIS	1.52	+	1.0451 RHIS						R SQAR BAR=	.924	DURBIN WAT= 1.855
GLFR			(14.42) GT6						AVER % ERR=	17.76	ESTIMATION= OLS
SCAR	-1.67	+	.7553 SCAR						R SQAR BAR=	.961	DURBIN WAT= 1.381
GLFR			(20.48) GT6						AVER % ERR=	13.14	ESTIMATION= OLS
SDAK	-1.12	+	1.1429 SDAK						R SQAR BAR=	.902	DURBIN WAT= 1.382
GLFR			(12.55) GT6						AVER % ERR=	24.42	ESTIMATION= OLS
TENN	5.38	+	.9734 TENN						R SQAR BAR=	.976	DURBIN WAT= 1.087
GLFR			(26.16) GT6						AVER % ERR=	10.88	ESTIMATION= OLS
TEXA	23.35	+	.9540 TEXA	+	.1320 TEXA	+	-2.6875 U.S.		R SQAR BAR=	.994	DURBIN WAT= 2.601
GLFR			(12.44) GT5		(1.63) GLFL		(2.81) TIME		AVER % ERR=	4.68	ESTIMATION= C-O
UTAH	1.50	+	.7900 UTAH						R SQAR BAR=	.962	DURBIN WAT= 1.944
GLFR			(20.65) GT5						AVER % ERR=	12.59	ESTIMATION= OLS
VERM	3.17	+	.7155 VERM	+	.1803 VERM	+	-.2672 U.S.		R SQAR BAR=	.948	DURBIN WAT= 1.884
GLFR			(5.47) GT6		(1.14) GLFL		(1.97) TIME		AVER % ERR=	19.75	ESTIMATION= OLS
VIRG	14.18	+	1.0591 VIRG						R SQAR BAR=	.989	DURBIN WAT= 2.498
GLFR			(39.10) GT5						AVER % ERR=	7.44	ESTIMATION= OLS
WASH	1.69	+	.9261 WASH						R SQAR BAR=	.967	DURBIN WAT= 2.473
GLFR			(22.26) GT6						AVER % ERR=	12.07	ESTIMATION= OLS
WVIR	-4.33	+	1.0889 WVIR						R SQAR BAR=	.974	DURBIN WAT= 1.507
GLFR			(25.30) GT5						AVER % ERR=	15.30	ESTIMATION= OLS
WISC	31.97	+	.7329 WISC	+	.3640 WISC	+	-3.2759 U.S.		R SQAR BAR=	.966	DURBIN WAT= 2.600
GLFR			(6.36) GT5		(2.91) GLFL		(2.65) TIME		AVER % ERR=	18.89	ESTIMATION= OLS
WYOM	1.14	+	.9313 WYOM						R SQAR BAR=	.763	DURBIN WAT= 1.478
GLFR			(7.46) GLFL						AVER % ERR=	27.03	ESTIMATION= OLS

ESTIMATION FOR: GLTR LOCAL GOVERNMENT, GENERAL REVENUE, TAXES (22)

THE ESTIMATION PERIOD IS FROM 1958 TO 1976 EXCEPT FOR 1960 TO 1976 IN STATES: ALAS HAWA

ALAB	-20.20	+	.0095	ALAB	+	.0188	ALAB	+	3.2810	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.856
GLTR			(2.59)	YM		(3.47)	RSM		(4.11)	TIME	AVER % ERR=	1.52	ESTIMATION=	OLS
ALAS	-8.50	+	.0253	ALAS	+	.0264	ALAS				R SQAR BAR=	.988	DURBIN WAT=	2.278
GLTR			(2.24)	YM		(1.06)	RSM				AVER % ERR=	5.51	ESTIMATION=	OLS
ARIS	-18.12	+	.0203	ARIZ							R SQAR BAR=	.990	DURBIN WAT=	1.605
GLTR			(43.27)	GT1M							AVER % ERR=	4.58	ESTIMATION=	OLS
ARKA	.91	+	.0066	ARKA	+	2.1160	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.441
GLTR			(15.82)	GT1M		(4.80)	TIME				AVER % ERR=	1.89	ESTIMATION=	OLS
CALF	-1520.47	+	.0243	CALF	+	110.1446	U.S.				R SQAR BAR=	.991	DURBIN WAT=	1.143
GLTR			(8.01)	GT1M		(2.67)	TIME				AVER % ERR=	3.50	ESTIMATION=	OLS
COLO	-36.68	+	.0180	COLO	+	6.0909	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.719
GLTR			(10.26)	GT1M		(2.01)	TIME				AVER % ERR=	3.64	ESTIMATION=	OLS
CONN	-92.12	+	.0578	CONN							R SQAR BAR=	.977	DURBIN WAT=	1.374
GLTR			(10.38)	YM							AVER % ERR=	4.82	ESTIMATION=	C-O
DELA	-15.32	+	.0223	DELA	+	.6326	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.165
GLTR			(11.14)	YM		(1.91)	TIME				AVER % ERR=	2.97	ESTIMATION=	OLS
D.C.	-196.86	+	.1313	D.C.	+	.0498	D.C.				R SQAR BAR=	.989	DURBIN WAT=	1.051
GLTR			(28.16)	YM		(1.20)	RSM				AVER % ERR=	3.48	ESTIMATION=	OLS
FLOR	-64.73	+	.0110	FLOR	+	17.9146	U.S.				R SQAR BAR=	.989	DURBIN WAT=	1.378
GLTR			(10.62)	GT1M		(3.16)	TIME				AVER % ERR=	3.70	ESTIMATION=	OLS
GEOR	-89.40	+	.0210	GEOR	+	.0359	GEOR				R SQAR BAR=	.993	DURBIN WAT=	1.147
GLTR			(3.11)	YM		(3.04)	RSM				AVER % ERR=	3.80	ESTIMATION=	OLS
HAWA	-42.28	+	.0090	HAWA	+	3.5407	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.601
GLTR			(7.17)	GT1M		(4.15)	TIME				AVER % ERR=	3.27	ESTIMATION=	OLS
IDAH	14.04	+	.0087	IDAH	+	1.4339	U.S.				R SQAR BAR=	.979	DURBIN WAT=	1.827
GLTR			(8.22)	GT1M		(2.98)	TIME				AVER % ERR=	3.36	ESTIMATION=	OLS
ILLI	-178.64	+	.0540	ILLI							R SQAR BAR=	.978	DURBIN WAT=	1.113
GLTR			(28.08)	YM							AVER % ERR=	4.83	ESTIMATION=	OLS
INDI	234.63	+	.0132	INDI							R SQAR BAR=	.956	DURBIN WAT=	1.401
GLTR			(4.82)	GT1M							AVER % ERR=	5.15	ESTIMATION=	C-O
IOWA	-6.19	+	.0069	IOWA	+	19.2919	U.S.				R SQAR BAR=	.968	DURBIN WAT=	1.171
GLTR			(2.15)	GT1M		(3.99)	TIME				AVER % ERR=	4.27	ESTIMATION=	OLS
KANS	62.66	+	.0259	KANS	+	8.0616	U.S.				R SQAR BAR=	.980	DURBIN WAT=	1.710
GLTR			(6.05)	YM		(3.34)	TIME				AVER % ERR=	3.17	ESTIMATION=	OLS

ESTIMATION FOR: GLTR LOCAL GOVERNMENT, GENERAL REVENUE, TAXES (22)

KENT	14.95	+	.0253	KENT						R SQAR BAR=	.995	DURBIN WAT=	1.965
GLTR			(57.93)	YM						AVER % ERR=	2.28	ESTIMATION=	OLS
LOUS	-48.10	+	.0376	LOUS						P SQAR BAR=	.998	DURBIN WAT=	1.447
GLTR			(28.03)	YM						AVER % ERR=	1.92	ESTIMATION=	C-O
MAIN	-10.34	+	.0110	MAIN	+	4.4177	U.S.			R SQAR BAR=	.805	DURBIN WAT=	1.140
GLTR			(1.44)	GT1M		(1.21)	TIME			AVER % ERR=	10.66	ESTIMATION=	OLS
MARY	-190.55	+	.0264	MARY						R SQAR BAR=	.995	DURBIN WAT=	1.017
GLTR			(59.26)	GT1M						AVER % ERR=	3.10	ESTIMATION=	OLS
MASS	-317.96	+	.0324	MASS	+	.0945	MASS			R SQAR BAR=	.983	DURBIN WAT=	1.023
GLTR			(1.93)	YM		(2.74)	RSM			AVER % ERR=	4.47	ESTIMATION=	OLS
MICH	-8.69	+	.0631	MICH	+	-28.5133	U.S.			R SQAR BAR=	.993	DURBIN WAT=	1.525
GLTR			(6.54)	YM		(1.04)	TIME			AVER % ERR=	2.90	ESTIMATION=	C-O
MINN	30.31	+	.0071	MINN	+	21.5197	U.S.			R SQAR BAR=	.947	DURBIN WAT=	1.151
GLTR			(2.16)	GT1M		(2.82)	TIME			AVER % ERR=	4.92	ESTIMATION=	OLS
MISS	7.03	+	.0059	MISS	+	4.1210	U.S.			R SQAR BAR=	.991	DURBIN WAT=	1.600
GLTR			(7.96)	GT1M		(5.36)	TIME			AVER % ERR=	2.49	ESTIMATION=	OLS
MISR	-91.28	+	.0507	MISR						R SQAR BAR=	.994	DURBIN WAT=	1.753
GLTR			(29.02)	YM						AVER % ERR=	2.21	ESTIMATION=	C-O
MONT	-3.41	+	.0470	MONT	+	2.0463	U.S.			R SQAR BAR=	.988	DURBIN WAT=	1.800
GLTR			(11.09)	YM		(3.00)	TIME			AVER % ERR=	3.14	ESTIMATION=	OLS
NEBR	-76.66	+	.0288	NEBR	+	.0847	NEBR			R SQAR BAR=	.993	DURBIN WAT=	1.514
GLTR			(3.46)	YM		(2.91)	RSM			AVER % ERR=	2.33	ESTIMATION=	C-O
NEVA	-11.06	+	.0334	NEVA	+	.0378	NEVA			R SQAR BAR=	.988	DURBIN WAT=	1.014
GLTR			(2.71)	YM		(1.66)	RSM			AVER % ERR=	5.07	ESTIMATION=	OLS
NHAM	-12.04	+	.0544	NHAM	+	.0121	NHAM			R SQAR BAR=	.995	DURBIN WAT=	1.396
GLTR			(7.72)	YM		(1.29)	RSM			AVER % ERR=	2.32	ESTIMATION=	OLS
NJER	-417.49	+	.0415	NJER	+	.0796	NJER			R SQAR BAR=	.993	DURBIN WAT=	1.789
GLTR			(2.47)	YM		(2.01)	RSM			AVER % ERR=	2.22	ESTIMATION=	C-O
NMEX	-5.26	+	.0020	NMEX	+	3.4667	U.S.			R SQAR BAR=	.980	DURBIN WAT=	1.875
GLTR			(3.01)	GT1M		(9.02)	TIME			AVER % ERR=	3.60	ESTIMATION=	OLS
NYOR	-1266.74	+	.1306	NYOR	+	.0541	NYOR	+	-252.9050 U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.213
GLTR			(3.87)	YM		(.80)	RSM		(2.57) TIME	AVER % ERR=	2.24	ESTIMATION=	C-O
NCAR	78.18	+	.0419	NCAR	+	-16.2802	U.S.			R SQAR BAR=	.999	DURBIN WAT=	2.099
GLTR			(13.27)	YM		(3.24)	TIME			AVER % ERR=	1.37	ESTIMATION=	C-O

ESTIMATION FOR: GLTR LOCAL GOVERNMENT, GENERAL REVENUE, TAXES (22)

NDAK	57.73	+	.0082	NDAK							R SQAR BAR=	.882	DURBIN WAT=	1.513
GLTR			(3.50)	GT1M							AVER % ERR=	6.48	ESTIMATION=	C-0
OHIO	-339.60	+	.0274	OHIO	+	54.4552	U.S.				R SQAR BAR=	.995	DURBIN WAT=	.900
GLTR			(2.72)	YM		(1.67)	TIME				AVER % ERR=	2.18	ESTIMATION=	C-0
OKLA	-22.06	+	.0223	OKLA	+	5.6106	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.442
GLTR			(13.14)	YM		(5.50)	TIME				AVER % ERR=	2.13	ESTIMATION=	OLS
OREG	-34.80	+	.0582	OREG							R SQAR BAR=	.988	DURBIN WAT=	1.965
GLTR			(38.91)	YM							AVER % ERR=	3.66	ESTIMATION=	OLS
PENN	-567.03	+	.0201	PENN	+	77.4662	U.S.				R SQAR BAR=	.992	DURBIN WAT=	1.474
GLTR			(1.88)	YM		(1.99)	TIME				AVER % ERR=	2.51	ESTIMATION=	C-0
RHIS	-10.77	+	.0327	RHIS	+	.0345	RHIS				R SQAR BAR=	.998	DURBIN WAT=	1.343
GLTR			(5.51)	YM		(2.71)	RSM				AVER % ERR=	1.37	ESTIMATION=	C-0
SCAR	-13.78	+	.0142	SCAR	+	.0196	SCAR				R SQAR BAR=	.991	DURBIN WAT=	1.168
GLTR			(2.30)	YM		(1.79)	RSM				AVER % ERR=	4.02	ESTIMATION=	OLS
SDAK	-.25	+	.0253	SDAK	+	4.6268	U.S.				R SQAR BAR=	.967	DURBIN WAT=	.810
GLTR			(3.25)	YM		(4.16)	TIME				AVER % ERR=	4.92	ESTIMATION=	OLS
TENN	-50.96	+	.0397	TENN							R SQAR BAR=	.997	DURBIN WAT=	1.178
GLTR			(74.93)	YM							AVER % ERR=	2.31	ESTIMATION=	OLS
TEXA	-24.96	+	.0156	TEXA							R SQAR BAR=	.998	DURBIN WAT=	1.124
GLTR			(41.76)	GT1M							AVER % ERR=	1.58	ESTIMATION=	C-0
UTAH	1.54	+	.0251	UTAH	+	2.9340	U.S.				R SQAR BAR=	.989	DURBIN WAT=	1.639
GLTR			(9.29)	YM		(4.29)	TIME				AVER % ERR=	2.49	ESTIMATION=	OLS
VERM	4.05	+	.0433	VERM	+	-4.0325	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.087
GLTR			(13.39)	GT1M		(5.15)	TIME				AVER % ERR=	5.44	ESTIMATION=	OLS
VIRG	-72.70	+	.0464	VIRG	+	-2.9094	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.771
GLTR			(31.23)	YM		(1.49)	TIME				AVER % ERR=	1.61	ESTIMATION=	OLS
WASH	-135.14	+	.0332	WASH	+	9.1628	U.S.				R SQAR BAR=	.951	DURBIN WAT=	.816
GLTR			(4.16)	YM		(1.24)	TIME				AVER % ERR=	8.59	ESTIMATION=	OLS
WVIR	5.01	+	.0094	WVIR	+	.0139	WVIR	+	2.6116	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.669
GLTR			(1.77)	YM		(1.79)	RSM		(4.62)	TIME	AVER % ERR=	1.88	ESTIMATION=	OLS
WISC	208.16	+	.0159	WISC							R SQAR BAR=	.962	DURBIN WAT=	1.237
GLTR			(5.23)	GT1M							AVER % ERR=	5.45	ESTIMATION=	C-0
WYOM	-9.13	+	.0157	WYOM	+	1.0911	U.S.				R SQAR BAR=	.968	DURBIN WAT=	1.521
GLTR			(8.74)	GT1M		(2.46)	TIME				AVER % ERR=	5.60	ESTIMATION=	OLS

ESTIMATION FOR: GLMR LOCAL GOVERNMENT, GENERAL REVENUE, CHARGES & MISC. (23) LAG DEPENDENT VARIABLE: GLML

THE ESTIMATION PERIOD IS FROM 1960 TO 1976 EXCEPT FOR 1962 TO 1976 IN STATES: ALAS HAWA

ALAB	-24.72	+	.0124	ALAB	+	.6279	ALAB				R SQAR BAR=	.985	DURBIN WAT=	1.673
GLMR			(2.27)	YM		(2.93)	GLML				AVER % ERR=	4.93	ESTIMATION=	OLS
ALAS	-78.53	+	.0098	ALAS	+	.1196	ALAS	+	4.6819	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.606
GLMR			(2.52)	YM		(1.00)	GLTF		(3.78)	TIME	AVER % ERR=	5.35	ESTIMATION=	C-O
ARIS	-9.63	+	.0066	ARIZ	+	.8099	ARIZ				R SQAR BAR=	.988	DURBIN WAT=	2.696
GLMR			(1.85)	YM		(3.78)	GLML				AVER % ERR=	4.40	ESTIMATION=	OLS
ARKA	-49.92	+	.0148	ARKA	+	2.3384	ARKA	+	2.6507	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.795
GLMR			(4.21)	YM		(2.46)	GLTF		(1.92)	TIME	AVER % ERR=	5.87	ESTIMATION=	OLS
CALF	-502.63	+	.0255	CALF							R SQAR BAR=	.994	DURBIN WAT=	1.956
GLMR			(51.52)	YM							AVER % ERR=	3.39	ESTIMATION=	OLS
COLO	-19.50	+	.0096	COLO	+	.6813	COLO				R SQAR BAR=	.994	DURBIN WAT=	2.123
GLMR			(3.57)	YM		(4.87)	GLML				AVER % ERR=	3.54	ESTIMATION=	OLS
CONN	-12.73	+	.0083	CONN							R SQAR BAR=	.991	DURBIN WAT=	2.220
GLMR			(42.88)	YM							AVER % ERR=	3.07	ESTIMATION=	OLS
DELA	-80.20	+	.0091	DELA	+	.1734	DELA				R SQAR BAR=	.954	DURBIN WAT=	1.459
GLMR			(3.39)	YM		(3.22)	PM				AVER % ERR=	7.39	ESTIMATION=	OLS
D.C.	-43.01	+	.0624	D.C.	+	.3519	D.C.	+	-6.3592	U.S.	R SQAR BAR=	.958	DURBIN WAT=	1.017
GLMR			(5.78)	YM		(1.24)	GLTF		(2.39)	TIME	AVER % ERR=	8.91	ESTIMATION=	OLS
FLOR	-963.11	+	.0226	FLOR	+	.3202	FLOR	+	-56.4340	U.S.	R SQAR BAR=	.975	DURBIN WAT=	.880
GLMR			(2.50)	YM		(1.30)	PM		(1.72)	TIME	AVER % ERR=	5.43	ESTIMATION=	OLS
GEOR	-27.97	+	.0353	GEOR	+	.6576	GEOR	+	-7.5346	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.793
GLMR			(10.15)	YM		(1.93)	GLTF		(2.59)	TIME	AVER % ERR=	2.69	ESTIMATION=	OLS
HAWA	5.12	+	.0074	HAWA							R SQAR BAR=	.818	DURBIN WAT=	1.891
GLMR			(8.01)	YM							AVER % ERR=	11.64	ESTIMATION=	OLS
IDAH	-3.78	+	.0080	IDAH	+	.7431	IDAH				R SQAR BAR=	.986	DURBIN WAT=	1.937
GLMR			(2.39)	YM		(3.86)	GLML				AVER % ERR=	4.17	ESTIMATION=	OLS
ILLI	-117.19	+	.0196	ILLI	+	-12.2977	U.S.				R SQAR BAR=	.991	DURBIN WAT=	1.833
GLMR			(11.48)	YM		(2.17)	TIME				AVER % ERR=	3.42	ESTIMATION=	OLS
INDI	-76.22	+	.0270	INDI	+	-8.4212	U.S.				R SQAR BAR=	.976	DURBIN WAT=	2.189
GLMR			(7.05)	YM		(1.61)	TIME				AVER % ERR=	6.00	ESTIMATION=	OLS
IOWA	-36.86	+	.0136	IOWA	+	.3325	IOWA	+	.4167	IOWA	R SQAR BAR=	.980	DURBIN WAT=	1.842
GLMR			(2.44)	YM		(2.95)	GLTF		(1.33)	GLML	AVER % ERR=	4.42	ESTIMATION=	OLS
KANS	-22.99	+	.0101	KANS	+	.6214	KANS				R SQAR BAR=	.990	DURBIN WAT=	2.205
GLMR			(2.01)	YM		(2.30)	GLML				AVER % ERR=	3.83	ESTIMATION=	OLS

ESTIMATION FOR: GLMR LOCAL GOVERNMENT. GENERAL REVENUE. CHARGES & MISC. (23) LAG DEPENDENT VARIABLE: GLML

KENT	-46.54	+	.0137	KENT	+	.5136	KENT	+	3.3995	U.S.	R SQAR BAR=	.977	DURBIN WAT=	2.103
GLMR			(4.92)	YM		(1.36)	GLTF		(1.62)	TIME	AVER % ERR=	4.81	ESTIMATION=	OLS
LOUS	-38.15	+	.0301	LOUS	+	-5.0638	U.S.				R SQAR BAR=	.976	DURBIN WAT=	1.985
GLMR			(8.03)	YM		(1.55)	TIME				AVER % ERR=	6.76	ESTIMATION=	OLS
MAIN	-3.81	+	.0137	MAIN	+	-.8814	U.S.				R SQAR BAR=	.918	DURBIN WAT=	1.698
GLMR			(5.05)	YM		(1.43)	TIME				AVER % ERR=	10.10	ESTIMATION=	OLS
MARY	-3.68	+	.0257	MARY	+	.0972	MARY	+	-9.1395	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.974
GLMR			(20.80)	YM		(1.55)	GLTF		(5.29)	TIME	AVER % ERR=	2.27	ESTIMATION=	OLS
MASS	-39.62	+	.0067	MASS	+	.5540	MASS				R SQAR BAR=	.992	DURBIN WAT=	2.162
GLMR			(2.95)	YM		(2.87)	GLML				AVER % ERR=	2.96	ESTIMATION=	OLS
MICH	-94.13	+	.0324	MICH	+	.2353	MICH	+	-23.2039	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.726
GLMR			(11.13)	YM		(1.28)	GLTF		(3.06)	TIME	AVER % ERR=	3.81	ESTIMATION=	OLS
MINN	-49.98	+	.0377	MINN	+	.1288	MINN	+	-9.2186	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.948
GLMR			(19.70)	YM		(2.44)	GLTF		(4.44)	TIME	AVER % ERR=	2.73	ESTIMATION=	OLS
MISS	-20.08	+	.0180	MISS	+	.4424	MISS				R SQAR BAR=	.953	DURBIN WAT=	1.455
GLMR			(2.16)	YM		(1.34)	GLML				AVER % ERR=	7.04	ESTIMATION=	OLS
MISR	-94.25	+	.0214	MISR							R SQAR BAR=	.993	DURBIN WAT=	2.272
GLMR			(48.79)	YM							AVER % ERR=	2.99	ESTIMATION=	OLS
MONT	-285.91	+	.0175	MONT	+	.3979	MONT				R SQAR BAR=	.962	DURBIN WAT=	1.130
GLMR			(3.57)	YM		(1.69)	PM				AVER % ERR=	6.80	ESTIMATION=	C-O
NEBR	-39.33	+	.0262	NEBR	+	.3526	NEBR				R SQAR BAR=	.985	DURBIN WAT=	1.789
GLMR			(21.68)	YM		(1.39)	GLTF				AVER % ERR=	4.94	ESTIMATION=	OLS
NEVA	-11.27	+	.0252	NEVA	+	.3619	NEVA				R SQAR BAR=	.987	DURBIN WAT=	1.888
GLMR			(3.15)	YM		(1.44)	GLML				AVER % ERR=	4.95	ESTIMATION=	OLS
NHAM	2.88	+	.0179	NHAM	+	-1.3093	U.S.				R SQAR BAR=	.979	DURBIN WAT=	1.965
GLMR			(10.13)	YM		(3.49)	TIME				AVER % ERR=	5.58	ESTIMATION=	OLS
NJER	-60.50	+	.0069	NJER	+	.5911	NJER				R SQAR BAR=	.975	DURBIN WAT=	1.446
GLMR			(2.39)	YM		(2.90)	GLML				AVER % ERR=	5.25	ESTIMATION=	OLS
NMEX	-6.37	+	.0135	NMEX	+	.9908	U.S.				R SQAR BAR=	.966	DURBIN WAT=	1.864
GLMR			(5.74)	YM		(1.72)	TIME				AVER % ERR=	5.62	ESTIMATION=	OLS
NYOR	-144.90	+	.0044	NYOR	+	.1333	NYOR	+	.9001	NYOR	R SQAR BAR=	.994	DURBIN WAT=	2.045
GLMR			(1.61)	YM		(1.32)	GLTF		(8.85)	GLML	AVER % ERR=	2.86	ESTIMATION=	OLS
NCAR	-802.75	+	.0174	NCAR	+	.2038	NCAR	+	-14.2876	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.305
GLMR			(9.33)	YM		(1.49)	PM		(2.18)	TIME	AVER % ERR=	3.09	ESTIMATION=	OLS

ESTIMATION FOR: GLMR LOCAL GOVERNMENT, GENERAL REVENUE, CHARGES & MISC. (23) LAG DEPENDENT VARIABLE: GLML

NDAK	-2.05	+	.0047	NDAK	+	.2208	NDAK	+	.8562	NDAK	R SQAR BAR=	.922	DURBIN WAT=	1.589
GLMR			(1.36)	YM		(1.23)	GLTF		(3.27)	GLML	AVER % ERR=	8.68	ESTIMATION=	OLS
OHIO	-384.23	+	.0253	OHIO	+	.2057	OHIO				R SQAR BAR=	.995	DURBIN WAT=	1.454
GLMR			(18.69)	YM		(1.25)	GLTF				AVER % ERR=	2.34	ESTIMATION=	C-O
OKLA	-32.05	+	.0209	OKLA							R SQAR BAR=	.992	DURBIN WAT=	2.346
GLMR			(45.65)	YM							AVER % ERR=	3.26	ESTIMATION=	OLS
OREG	-33.85	+	.0298	OREG	+	-2.4007	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.771
GLMR			(21.17)	YM		(2.72)	TIME				AVER % ERR=	2.57	ESTIMATION=	OLS
PENN	-161.75	+	.0161	PENN							R SQAR BAR=	.979	DURBIN WAT=	1.532
GLMR			(27.02)	YM							AVER % ERR=	5.10	ESTIMATION=	OLS
RHIS	2.19	+	.0044	RHIS	+	.2149	RHIS				R SQAR BAR=	.963	DURBIN WAT=	1.968
GLMR			(8.55)	YM		(1.95)	GLTF				AVER % ERR=	4.45	ESTIMATION=	OLS
SCAR	-925.31	+	.0198	SCAR	+	.4335	SCAR	+	-11.3864	U.S.	R SQAR BAR=	.982	DURBIN WAT=	1.797
GLMR			(2.74)	YM		(1.68)	PM		(3.40)	TIME	AVER % ERR=	5.15	ESTIMATION=	OLS
SDAK	-.89	+	.0010	SDAK	+	1.0677	SDAK				R SQAR BAR=	.972	DURBIN WAT=	2.089
GLMR			(.33)	YM		(5.38)	GLML				AVER % ERR=	4.93	ESTIMATION=	OLS
TENN	-908.08	+	.0265	TENN	+	.2707	TENN	+	-11.5969	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.941
GLMR			(15.35)	YM		(2.24)	PM		(2.60)	TIME	AVER % ERR=	2.75	ESTIMATION=	OLS
TEXA	-79.71	+	.0182	TEXA	+	.4694	TEXA				R SQAR BAR=	.991	DURBIN WAT=	1.855
GLMR			(10.85)	YM		(1.41)	GLTF				AVER % ERR=	3.33	ESTIMATION=	OLS
UTAH	-9.93	+	.0061	UTAH	+	.9052	UTAH				R SQAR BAR=	.987	DURBIN WAT=	1.595
GLMR			(1.85)	YM		(4.70)	GLML				AVER % ERR=	4.24	ESTIMATION=	OLS
VERM	1.22	+	.0160	VERM	+	-.7660	U.S.				R SQAR BAR=	.966	DURBIN WAT=	2.503
GLMR			(7.76)	YM		(3.28)	TIME				AVER % ERR=	9.67	ESTIMATION=	OLS
VIRG	-455.72	+	.0201	VIRG	+	.1539	VIRG	+	-19.7361	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.240
GLMR			(25.44)	YM		(3.25)	PM		(5.45)	TIME	AVER % ERR=	1.81	ESTIMATION=	OLS
WASH	-48.43	+	.0158	WASH	+	.2976	WASH	+	.4833	WASH	R SQAR BAR=	.995	DURBIN WAT=	1.966
GLMR			(3.23)	YM		(2.47)	GLTF		(2.62)	GLML	AVER % ERR=	2.88	ESTIMATION=	OLS
WVIR	-155.26	+	.0175	WVIR	+	.0764	WVIR				R SQAR BAR=	.969	DURBIN WAT=	1.993
GLMR			(22.21)	YM		(1.38)	PM				AVER % ERR=	5.98	ESTIMATION=	OLS
WISC	-41.37	+	.0344	WISC	+	-13.0811	U.S.				R SQAR BAR=	.987	DURBIN WAT=	2.057
GLMR			(12.76)	YM		(4.09)	TIME				AVER % ERR=	5.37	ESTIMATION=	OLS
WYOM	-9.97	+	.0269	WYOM	+	.3466	WYOM				R SQAR BAR=	.978	DURBIN WAT=	1.959
GLMR			(3.41)	YM		(1.32)	GLML				AVER % ERR=	6.14	ESTIMATION=	OLS

ESTIMATION FOR: GLE LOCAL GOVERNMENT. EXPENDITURES. TOTAL (24)

THE ESTIMATION PERIOD IS FROM 1958 TO 1976 EXCEPT FOR 1960 TO 1976 IN STATES: ALAS HAWA

ALAB	38.32	+	.9855	ALAB	+	.1325	ALAB	R SQAR BAR=	.994	DURBIN WAT=	2.465
GLE			(51.03)	GLR		(1.68)	UT2L	AVER % ERR=	2.67	ESTIMATION=	OLS
ALAS	7.60	+	1.0384	ALAS	+	.0514	ALAS	R SQAR BAR=	.982	DURBIN WAT=	1.915
GLE			(29.04)	GLR		(1.10)	UT2L	AVER % ERR=	6.31	ESTIMATION=	OLS
ARIS	21.46	+	.9918	ARIS	+	.0525	ARIZ	R SQAR BAR=	.999	DURBIN WAT=	2.775
GLE			(99.99)	GLR		(1.47)	UT2L	AVER % ERR=	1.56	ESTIMATION=	OLS
ARKA	66.42	+	.8731	ARKA	+	.0849	ARKA	R SQAR BAR=	.965	DURBIN WAT=	2.041
GLE			(9.58)	GLR		(.84)	UT2L	AVER % ERR=	6.00	ESTIMATION=	C-O
CALF	474.46	+	.9161	CALF	+	1.9404	CALF	R SQAR BAR=	.993	DURBIN WAT=	1.669
GLE			(49.13)	GLR		(1.99)	UT2L	AVER % ERR=	3.05	ESTIMATION=	OLS
COLO	-16.89	+	1.0328	COLO	+	.1759	COLO	R SQAR BAR=	.997	DURBIN WAT=	1.035
GLE			(78.92)	GLR		(1.93)	UT2	AVER % ERR=	2.37	ESTIMATION=	OLS
CONN	52.50	+	.9731	CONN	+	.0925	CONN	R SQAR BAR=	.996	DURBIN WAT=	2.109
GLE			(70.38)	GLR		(2.21)	UT2	AVER % ERR=	2.19	ESTIMATION=	OLS
DELA	13.96	+	.9681	DELA				R SQAR BAR=	.983	DURBIN WAT=	1.161
GLE			(32.39)	GLR				AVER % ERR=	5.52	ESTIMATION=	OLS
D.C.	60.57	+	.9115	D.C.	+	.0240	D.C.	R SQAR BAR=	.995	DURBIN WAT=	1.164
GLE			(55.28)	GLR		(.28)	UT2L	AVER % ERR=	3.28	ESTIMATION=	OLS
FLOR	75.64	+	.9891	FLOR	+	.3908	FLOR	R SQAR BAR=	.996	DURBIN WAT=	2.302
GLE			(53.70)	GLR		(2.12)	UT2L	AVER % ERR=	2.92	ESTIMATION=	OLS
GEOR	85.04	+	.9581	GEOR	+	.0312	GEOR	R SQAR BAR=	.991	DURBIN WAT=	1.705
GLE			(42.19)	GLR		(.28)	UT2L	AVER % ERR=	3.53	ESTIMATION=	OLS
HAWA	11.63	+	.9477	HAWA	+	.0470	HAWA	R SQAR BAR=	.989	DURBIN WAT=	1.131
GLE			(34.29)	GLR		(2.09)	UT2	AVER % ERR=	3.77	ESTIMATION=	OLS
IDAH	-.32	+	1.0066	IDAH	+	.0272	IDAH	R SQAR BAR=	.989	DURBIN WAT=	2.242
GLE			(39.88)	GLR		(.70)	UT2L	AVER % ERR=	3.40	ESTIMATION=	OLS
ILLI	228.28	+	.9385	ILLI	+	1.0193	ILLI	R SQAR BAR=	.994	DURBIN WAT=	2.214
GLE			(53.04)	GLR		(3.28)	UT2L	AVER % ERR=	2.67	ESTIMATION=	OLS
INDI	88.74	+	.9318	INDI	+	.0340	INDI	R SQAR BAR=	.996	DURBIN WAT=	1.374
GLE			(60.47)	GLR		(.42)	UT2L	AVER % ERR=	2.14	ESTIMATION=	OLS
IOWA	69.08	+	.9374	IOWA	+	.1024	IOWA	R SQAR BAR=	.991	DURBIN WAT=	1.054
GLE			(40.79)	GLR		(.66)	UT2L	AVER % ERR=	3.23	ESTIMATION=	OLS
KANS	-18.07	+	1.0282	KANS	+	.1539	KANS	R SQAR BAR=	.996	DURBIN WAT=	1.951
GLE			(62.42)	GLR		(2.49)	UT2L	AVER % ERR=	1.98	ESTIMATION=	OLS

ESTIMATION FOR: GLE LOCAL GOVERNMENT, EXPENDITURES, TOTAL (24)

KENT	79.16	+	.8921	KENT	+	.0434	KENT	R SQAR BAR=	.995	DURBIN WAT=	2.102
GLE			(27.73)	GLR		(1.85)	UT2	AVER % ERR=	2.52	ESTIMATION=	C-O
LOUS	105.34	+	.9261	LOUS	+	.0515	LOUS	R SQAR BAR=	.989	DURBIN WAT=	1.206
GLE			(40.80)	GLR		(.48)	UT2L	AVER % ERR=	3.68	ESTIMATION=	OLS
MAIN	10.47	+	.9788	MAIN	+	.0366	MAIN	R SQAR BAR=	.981	DURBIN WAT=	1.469
GLE			(29.36)	GLR		(1.09)	UT2L	AVER % ERR=	4.60	ESTIMATION=	OLS
MARY	70.95	+	.9692	MARY	+	.3389	MARY	R SQAR BAR=	.996	DURBIN WAT=	1.628
GLE			(65.51)	GLR		(2.50)	UT2	AVER % ERR=	2.47	ESTIMATION=	OLS
MASS	95.81	+	.9372	MASS	+	.1643	MASS	R SQAR BAR=	.995	DURBIN WAT=	1.103
GLE			(50.61)	GLR		(1.04)	UT2L	AVER % ERR=	2.55	ESTIMATION=	OLS
MICH	132.79	+	.9934	MICH	+	.1288	MICH	R SQAR BAR=	.998	DURBIN WAT=	1.524
GLE			(85.48)	GLR		(1.45)	UT2L	AVER % ERR=	1.63	ESTIMATION=	OLS
MINN	59.42	+	1.0070	MINN	+	.1521	MINN	R SQAR BAR=	.996	DURBIN WAT=	1.203
GLE			(69.82)	GLR		(.97)	UT2	AVER % ERR=	2.19	ESTIMATION=	OLS
MISS	42.71	+	.9387	MISS	+	.0213	MISS	R SQAR BAR=	.990	DURBIN WAT=	1.485
GLE			(39.78)	GLR		(.38)	UT2L	AVER % ERR=	3.54	ESTIMATION=	OLS
MISR	130.68	+	.9140	MISR	+	.1945	MISR	R SQAR BAR=	.993	DURBIN WAT=	2.046
GLE			(21.87)	GLR		(1.24)	UT2L	AVER % ERR=	2.78	ESTIMATION=	C-O
MONT	5.30	+	.9440	MONT				R SQAR BAR=	.994	DURBIN WAT=	2.666
GLE			(53.52)	GLR				AVER % ERR=	2.46	ESTIMATION=	OLS
NEBR	24.48	+	.9456	NEBR	+	.1436	NEBR	R SQAR BAR=	.990	DURBIN WAT=	1.624
GLE			(42.16)	GLR		(1.62)	UT2	AVER % ERR=	3.20	ESTIMATION=	OLS
NEVA	13.06	+	.9982	NEVA	+	.0368	NEVA	R SQAR BAR=	.996	DURBIN WAT=	1.424
GLE			(66.79)	GLR		(2.15)	UT2L	AVER % ERR=	2.89	ESTIMATION=	OLS
NHAM	4.38	+	1.0062	NHAM	+	.0152	NHAM	R SQAR BAR=	1.000	DURBIN WAT=	1.461
GLE			(99.99)	GLR		(2.59)	UT2	AVER % ERR=	.94	ESTIMATION=	OLS
NJER	152.16	+	.9619	NJER	+	.0736	NJER	R SQAR BAR=	.999	DURBIN WAT=	2.141
GLE			(50.85)	GLR		(.66)	UT2L	AVER % ERR=	1.03	ESTIMATION=	C-O
NMEX	5.34	+	.9577	NMEX	+	.1163	NMEX	R SQAR BAR=	.982	DURBIN WAT=	1.689
GLE			(31.37)	GLR		(1.60)	UT2L	AVER % ERR=	4.33	ESTIMATION=	OLS
NYOR	898.39	+	.9207	NYOR	+	.6850	NYOR	R SQAR BAR=	.998	DURBIN WAT=	1.127
GLE			(21.94)	GLR		(1.14)	UT2L	AVER % ERR=	1.69	ESTIMATION=	C-O
NCAR	51.32	+	.9835	NCAR	+	.0672	NCAR	R SQAR BAR=	.999	DURBIN WAT=	1.146
GLE			(99.99)	GLR		(1.71)	UT2L	AVER % ERR=	1.46	ESTIMATION=	OLS

ESTIMATION FOR: GLF LOCAL GOVERNMENT, EXPENDITURES, TOTAL (24)

NDAK	15.82	+	.9297	NDAK					R SQAR BAR=	.986	DURBIN WAT=	1.350
GLE			(35.06)	GLR					AVER % ERR=	3.37	ESTIMATION=	OLS
OHIO	133.54	+	.9982	OHIO	+	.2814	OHIO		R SQAR BAR=	.996	DURBIN WAT=	1.359
GLE			(65.68)	GLR		(2.09)	UT2L		AVER % ERR=	2.31	ESTIMATION=	OLS
OKLA	21.65	+	.9812	OKLA	+	.0649	OKLA		R SQAR BAR=	.997	DURBIN WAT=	1.751
GLE			(77.35)	GLR		(1.12)	UT2L		AVER % ERR=	2.01	ESTIMATION=	OLS
OREG	-1.34	+	1.0236	OREG	+	.0563	OREG		R SQAR BAR=	.999	DURBIN WAT=	1.961
GLE			(99.99)	GLR		(1.68)	UT2L		AVER % ERR=	1.47	ESTIMATION=	C-O
PENN	267.25	+	.9478	PENN	+	.2584	PENN		R SQAR BAR=	.996	DURBIN WAT=	1.708
GLE			(62.02)	GLR		(1.38)	UT2L		AVER % ERR=	2.43	ESTIMATION=	OLS
RHIS	10.12	+	.9791	RHIS	+	.0191	RHIS		R SQAR BAR=	.995	DURBIN WAT=	1.377
GLE			(31.34)	GLR		(2.63)	UT2		AVER % ERR=	2.63	ESTIMATION=	C-O
SCAR	27.56	+	.9937	SCAR	+	.0310	SCAR		R SQAR BAR=	.996	DURBIN WAT=	1.688
GLE			(29.42)	GLR		(1.48)	UT2		AVER % ERR=	2.24	ESTIMATION=	C-O
SDAK	6.73	+	.9477	SDAK	+	.0659	SDAK		R SQAR BAR=	.990	DURBIN WAT=	1.532
GLE			(20.10)	GLR		(1.49)	UT2L		AVER % ERR=	3.22	ESTIMATION=	C-O
TENN	77.17	+	.9721	TENN	+	.0746	TENN		R SQAR BAR=	.995	DURBIN WAT=	1.804
GLE			(58.13)	GLR		(1.16)	UT2		AVER % ERR=	2.61	ESTIMATION=	OLS
TEXA	166.66	+	1.0021	TEXA					R SQAR BAR=	.998	DURBIN WAT=	1.818
GLE			(99.05)	GLR					AVER % ERR=	1.72	ESTIMATION=	OLS
UTAH	-19.49	+	1.0743	UTAH	+	.0260	UTAH		R SQAR BAR=	.996	DURBIN WAT=	1.598
GLE			(28.45)	GLR		(.84)	UT2L		AVER % ERR=	2.22	ESTIMATION=	C-O
VERM	14.18	+	.8494	VERM	+	.0066	VERM		R SQAR BAR=	.994	DURBIN WAT=	1.463
GLE			(51.95)	GLR		(.76)	UT2L		AVER % ERR=	3.22	ESTIMATION=	OLS
VIRG	72.85	+	1.0089	VIRG	+	.1612	VIRG		R SQAR BAR=	.995	DURBIN WAT=	1.066
GLE			(58.54)	GLR		(.96)	UT2		AVER % ERR=	3.10	ESTIMATION=	OLS
WASH	57.92	+	.9747	WASH	+	.0664	WASH		R SQAR BAR=	.990	DURBIN WAT=	1.007
GLE			(42.42)	GLR		(.60)	UT2L		AVER % ERR=	3.50	ESTIMATION=	OLS
WVIR	4.28	+	.9940	WVIR	+	.0007	WVIR		R SQAR BAR=	.996	DURBIN WAT=	1.401
GLE			(66.39)	GLR		(.07)	UT2		AVER % ERR=	2.19	ESTIMATION=	OLS
WISC	134.16	+	.9392	WISC	+	.3560	WISC		R SQAR BAR=	.993	DURBIN WAT=	1.833
GLE			(46.83)	GLR		(1.47)	UT2L		AVER % ERR=	2.81	ESTIMATION=	OLS
WYOM	-.11	+	1.0367	WYOM	+	.0401	WYOM		R SQAR BAR=	.976	DURBIN WAT=	2.397
GLE			(26.87)	GLR		(1.36)	UT2		AVER % ERR=	5.29	ESTIMATION=	OLS

ESTIMATION FOR: MVR MOTOR VEHICLE, REGISTRATIONS (25) LAG DEPENDENT VARIABLE: MVRL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1960 TO 1976 IN STATES: ALAS HAWA

ALAB	202.96	+	.2468	ALAB	+	.5989	ALAB	+	18.7242	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.652
MVR			(3.47)	RSA*		(5.36)	MVRL		(2.65)	TIME	AVER % ERR=	1.11	ESTIMATION=	OLS
ALAS	-12.48	+	.5972	ALAS	+	.7566	ALAS	+	11.6777	ALAS	R SQAR BAR=	.986	DURBIN WAT=	2.346
MVR			(1.77)	MVT3		(5.59)	MVRL		(1.83)	YT5	AVER % ERR=	2.40	ESTIMATION=	OLS
ARIS	11.93	+	.3170	ARIZ	+	.8701	ARIZ				R SQAR BAR=	.996	DURBIN WAT=	2.108
MVR			(3.19)	RSA*		(14.76)	MVRL				AVER % ERR=	1.77	ESTIMATION=	OLS
ARKA	200.86	+	.1258	ARKA	+	.4600	ARKA	+	14.2308	U.S.	R SQAR BAR=	.981	DURBIN WAT=	2.148
MVR			(1.68)	RSA*		(2.10)	MVRL		(1.80)	TIME	AVER % ERR=	2.03	ESTIMATION=	OLS
CALF	2105.90	+	.1157	CALF	+	.3835	CALF	+	219.6407	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.727
MVR			(4.19)	RSA*		(3.22)	MVRL		(4.73)	TIME	AVER % ERR=	.42	ESTIMATION=	OLS
COLO	101.05	+	.2558	COLO	+	.6549	COLO	+	12.1607	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.403
MVR			(3.75)	RSA*		(6.12)	MVRL		(2.89)	TIME	AVER % ERR=	1.12	ESTIMATION=	OLS
CONN	146.88	+	.0578	CONN	+	.7210	CONN	+	15.5042	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.773
MVR			(1.25)	RSA*		(6.14)	MVRL		(2.42)	TIME	AVER % ERR=	.70	ESTIMATION=	OLS
DELA	24.18	+	.0204	DELA	+	.7780	DELA	+	2.2297	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.357
MVR			(.52)	RSA*		(5.86)	MVRL		(1.57)	TIME	AVER % ERR=	.90	ESTIMATION=	OLS
D.C.	38.15	+	.0926	D.C.	+	.6486	D.C.	+	1.8643	U.S.	R SQAR BAR=	.983	DURBIN WAT=	2.254
MVR			(2.28)	RSA*		(3.82)	MVRL		(2.11)	TIME	AVER % ERR=	1.01	ESTIMATION=	OLS
FLOR	110.38	+	.1530	FLOR	+	.9256	FLOR				R SQAR BAR=	.998	DURBIN WAT=	1.990
MVR			(3.55)	RSA*		(22.27)	MVRL				AVER % ERR=	1.21	ESTIMATION=	OLS
GEOR	134.02	+	.1870	GEOR	+	.6571	GEOR	+	26.5715	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.153
MVR			(3.95)	RSA*		(7.97)	MVRL		(3.75)	TIME	AVER % ERR=	1.09	ESTIMATION=	OLS
HAWA	25.20	+	.2028	HAWA	+	.5173	HAWA	+	6.5815	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.797
MVR			(1.76)	RSA*		(2.81)	MVRL		(2.08)	TIME	AVER % ERR=	1.30	ESTIMATION=	OLS
IDAH	4.57	+	.2491	IDAH	+	.8923	IDAH				R SQAR BAR=	.995	DURBIN WAT=	1.653
MVR			(3.38)	RSA*		(12.41)	MVRL				AVER % ERR=	1.32	ESTIMATION=	OLS
ILLI	127.86	+	.1356	ILLI	+	.9156	ILLI				R SQAR BAR=	.999	DURBIN WAT=	2.284
MVR			(6.62)	RSA*		(42.42)	MVRL				AVER % ERR=	.48	ESTIMATION=	OLS
INDI	326.15	+	.2104	INDI	+	.7637	INDI				R SQAR BAR=	.966	DURBIN WAT=	2.800
MVR			(2.35)	RSA*		(6.78)	MVRL				AVER % ERR=	2.27	ESTIMATION=	OLS
IOWA	319.72	+	.1160	IOWA	+	.5750	IOWA	+	17.7775	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.892
MVR			(2.05)	RSA*		(4.55)	MVRL		(3.49)	TIME	AVER % ERR=	.59	ESTIMATION=	OLS
KANS	66.63	+	.1521	KANS	+	.9021	KANS				R SQAR BAR=	.993	DURBIN WAT=	1.665
MVR			(2.18)	RSA*		(14.76)	MVRL				AVER % ERR=	.95	ESTIMATION=	OLS

ESTIMATION FOR: MVR MOTOR VEHICLE, REGISTRATIONS (25) LAG DEPENDENT VARIABLE: MVRL

KENT	155.00	+	.2273	KENT	+	.7014	KENT	+	10.7785	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.867
MVR			(5.01)	RSA*		(9.40)	MVRL		(2.94)	TIME	AVER % ERR=	.62	ESTIMATION=	OLS
LOUS	249.87	+	.1835	LOUS	+	.5530	LOUS	+	18.1979	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.339
MVR			(4.38)	RSA*		(4.66)	MVRL		(2.97)	TIME	AVER % ERR=	1.02	ESTIMATION=	OLS
MAIN	-36.80	+	.0580	MAIN	+	1.1483	MAIN	+	-1.6157	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.510
MVR			(1.11)	RSA*		(19.78)	MVRL		(1.65)	TIME	AVER % ERR=	.86	ESTIMATION=	OLS
MARY	9.06	+	.0951	MARY	+	.9843	MARY				R SQAR BAR=	.999	DURBIN WAT=	2.038
MVR			(3.38)	RSA*		(43.87)	MVRL				AVER % ERR=	.77	ESTIMATION=	OLS
MASS	71.11	+	.0377	MASS	+	.9264	MASS	+	7.0122	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.798
MVR			(.82)	RSA*		(11.23)	MVRL		(1.30)	TIME	AVER % ERR=	.85	ESTIMATION=	OLS
MICH	431.95	+	.1466	MICH	+	.7249	MICH	+	23.0797	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.088
MVR			(4.06)	RSA*		(10.53)	MVRL		(2.83)	TIME	AVER % ERR=	.70	ESTIMATION=	OLS
MINN	294.49	+	.1070	MINN	+	.6680	MINN	+	17.6048	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.713
MVR			(1.78)	RSA*		(4.44)	MVRL		(2.38)	TIME	AVER % ERR=	.63	ESTIMATION=	OLS
MISS	145.12	+	.1534	MISS	+	.5488	MISS	+	13.7384	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.543
MVR			(3.91)	RSA*		(6.03)	MVRL		(5.16)	TIME	AVER % ERR=	.74	ESTIMATION=	OLS
MISR	614.03	+	.2379	MISR	+	.3148	MISR	+	33.4304	U.S.	R SQAR BAR=	.987	DUPBIN WAT=	1.893
MVR			(2.94)	RSA*		(1.72)	MVRL		(2.95)	TIME	AVER % ERR=	1.76	ESTIMATION=	OLS
MONT	-5.35	+	.4431	MONT	+	.8281	MONT				R SQAR BAR=	.976	DURBIN WAT=	2.225
MVR			(2.97)	RSA*		(10.41)	MVRL				AVER % ERR=	2.06	ESTIMATION=	OLS
NEBR	40.24	+	.2742	NEBR	+	.8940	NEBR	+	4.4102	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.366
MVR			(2.29)	MVT3		(9.03)	MVRL		(1.67)	TIME	AVER % ERR=	.96	ESTIMATION=	OLS
NEVA	8.81	+	.1438	NEVA	+	.9432	NEVA				R SQAR BAR=	.994	DURBIN WAT=	1.927
MVR			(2.03)	RSA*		(18.58)	MVRL				AVER % ERR=	2.20	ESTIMATION=	OLS
NHAM	64.52	+	.2060	NHAM	+	.4949	NHAM	+	3.9142	U.S.	R SQAR BAR=	.984	DURBIN WAT=	2.017
MVR			(2.76)	RSA*		(2.14)	MVRL		(1.70)	TIME	AVER % ERR=	2.45	ESTIMATION=	OLS
NJER	430.88	+	.0855	NJER	+	.6224	NJER	+	39.9560	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.618
MVR			(2.28)	RSA*		(5.79)	MVRL		(3.43)	TIME	AVER % ERR=	.75	ESTIMATION=	OLS
NMEX	98.78	+	.2188	NMEX	+	.4374	NMEX	+	9.4727	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.482
MVR			(3.20)	RSA*		(2.27)	MVRL		(2.63)	TIME	AVER % ERR=	1.37	ESTIMATION=	OLS
NYOR	1690.47	+	.1039	NYOR	+	.4821	NYOR	+	67.9783	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.511
MVR			(1.86)	RSA*		(2.85)	MVRL		(2.95)	TIME	AVER % ERR=	.78	ESTIMATION=	OLS
NCAR	80.77	+	.1665	NCAR	+	.8442	NCAR	+	9.8088	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.976
MVR			(4.34)	RSA*		(17.43)	MVRL		(2.04)	TIME	AVER % ERR=	.81	ESTIMATION=	OLS

ESTIMATION FOR: MVR MOTOR VEHICLE, REGISTRATIONS (25) LAG DEPENDENT VARIABLE: MVRL

NDAK	17.53	+	.2432	NDAK	+	.8612	NDAK				R SQAR BAR=	.996	DURBIN WAT=	1.328
MVR			(4.27)	RSA*		(14.43)	MVRL				AVER % ERR=	.82	ESTIMATION=	OLS
OHIO	649.93	+	.2008	OHIO	+	.6540	OHIO	+	39.2491	U.S.	R SQAR BAR=	.996	DURBIN WAT=	2.170
MVR			(4.21)	RSA*		(6.31)	MVRL		(2.17)	TIME	AVER % ERR=	.86	ESTIMATION=	OLS
OKLA	341.63	+	.1329	OKLA	+	.4374	OKLA	+	25.2531	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.058
MVR			(3.67)	RSA*		(3.04)	MVRL		(4.29)	TIME	AVER % ERR=	.50	ESTIMATION=	OLS
OREG	234.78	+	.2066	OREG	+	.4116	OREG	+	20.0556	U.S.	R SQAR BAR=	.993	DURBIN WAT=	2.247
MVR			(2.32)	RSA*		(2.57)	MVRL		(3.47)	TIME	AVER % ERR=	1.53	ESTIMATION=	OLS
PENN	-69.36	+	.1098	PENN	+	.9859	PENN				R SQAR BAR=	.998	DURBIN WAT=	1.525
MVR			(3.17)	RSA*		(33.08)	MVRL				AVER % ERR=	.56	ESTIMATION=	OLS
RHIS	44.89	+	.1120	RHIS	+	.7362	RHIS	+	3.2584	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.743
MVR			(1.90)	RSA*		(7.78)	MVRL		(2.84)	TIME	AVER % ERR=	.87	ESTIMATION=	OLS
SCAR	102.87	+	.2086	SCAR	+	.7521	SCAR	+	5.5492	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.786
MVR			(4.44)	RSA*		(10.23)	MVRL		(1.96)	TIME	AVER % ERR=	.99	ESTIMATION=	OLS
SDAK	-10.34	+	.1060	SDAK	+	1.0042	SDAK				R SQAR BAR=	.991	DURBIN WAT=	1.327
MVR			(1.19)	RSA*		(14.98)	MVRL				AVER % ERR=	1.23	ESTIMATION=	OLS
TENN	183.61	+	.1710	TENN	+	.6038	TENN	+	22.3959	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.261
MVR			(4.18)	RSA*		(6.89)	MVRL		(4.33)	TIME	AVER % ERR=	1.09	ESTIMATION=	OLS
TEXA	678.70	+	.1641	TEXA	+	.6485	TEXA	+	56.8187	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.222
MVR			(4.18)	RSA*		(7.40)	MVRL		(3.52)	TIME	AVER % ERR=	.80	ESTIMATION=	OLS
UTAH	40.99	+	.1735	UTAH	+	.7033	UTAH	+	5.4711	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.681
MVR			(.66)	RSA*		(1.46)	MVRL		(.78)	TIME	AVER % ERR=	1.92	ESTIMATION=	OLS
VERM	-3.81	+	.2076	VERM	+	.9283	VERM				R SQAR BAR=	.995	DURBIN WAT=	2.898
MVR			(3.50)	RSA*		(21.23)	MVRL				AVER % ERR=	1.37	ESTIMATION=	OLS
VIRG	-1553.93	+	1.5824	VIRG							R SQAR BAR=	.986	DURBIN WAT=	1.596
MVR			(15.24)	MVLD							AVER % ERR=	2.43	ESTIMATION=	C-O
WASH	184.92	+	.2869	WASH	+	.7069	WASH	+	7.6180	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.635
MVR			(5.06)	RSA*		(9.42)	MVRL		(1.41)	TIME	AVER % ERR=	.70	ESTIMATION=	OLS
WVIR	111.80	+	.1304	WVIR	+	.6925	WVIR	+	4.5250	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.824
MVR			(2.11)	RSA*		(5.16)	MVRL		(1.55)	TIME	AVER % ERR=	1.46	ESTIMATION=	OLS
WISC	125.33	+	.0686	WISC	+	.8611	WISC	+	7.3934	U.S.	R SQAR BAR=	.995	DURBIN WAT=	3.217
MVR			(1.23)	RSA*		(5.86)	MVRL		(1.07)	TIME	AVER % ERR=	.98	ESTIMATION=	OLS
WYOM			E X O G E N O U S											

ESTIMATION FOR: MVLD MOTOR VEHICLE, DRIVERS' LICENSES (26) LAG DEPENDENT VARIABLE: MVLL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1960 TO 1976 IN STATES: ALAS
AND 1961 TO 1976 IN STATES: HAWA

ALAB	-577.75	+	.6671	ALAB	+	.4771	ALAB					R SQAR BAR=	.958	DURBIN WAT=	1.650
MVLD			(2.42)	PT1		(2.41)	MVLL					AVER % ERR=	2.22	ESTIMATION=	OLS
ALAS	-29.74	+	.6097	ALAS	+	.0474	ALAS					R SQAR BAR=	.987	DURBIN WAT=	2.026
MVLD			(2.94)	PT1		(3.58)	DPI*					AVER % ERR=	2.41	ESTIMATION=	C-O
ARIS	67.93	+	.3927	ARIS	+	.9592	ARIZ					R SQAR BAR=	.992	DURBIN WAT=	1.299
MVLD			(1.70)	PMN		(49.45)	MVLL					AVER % ERR=	1.68	ESTIMATION=	OLS
ARKA	-144.29	+	.3918	ARKA	+	.6197	ARKA	+	.0312	ARKA		R SQAR BAR=	.995	DURBIN WAT=	1.590
MVLD			(1.67)	PT5		(6.19)	MVLL		(1.99)	DPI*		AVER % ERR=	.98	ESTIMATION=	OLS
CALF	-1811.01	+	.5818	CALF	+	.5114	CALF					R SQAR BAR=	.987	DURBIN WAT=	1.927
MVLD			(2.13)	PT1		(2.26)	MVLL					AVER % ERR=	1.62	ESTIMATION=	OLS
COLO	-55.45	+	.4286	COLO	+	.6166	COLO					R SQAR BAR=	.981	DURBIN WAT=	1.555
MVLD			(2.21)	PT1		(3.23)	MVLL					AVER % ERR=	1.89	ESTIMATION=	OLS
CONN	420.29	+	.7909	CONN								R SQAR BAR=	.874	DURBIN WAT=	2.125
MVLD			(2.16)	PT5								AVER % ERR=	3.14	ESTIMATION=	C-O
DELA	-60.30	+	.5652	DELA	+	.5887	DELA					R SQAR BAR=	.988	DURBIN WAT=	2.698
MVLD			(2.73)	PT1		(4.04)	MVLL					AVER % ERR=	1.72	ESTIMATION=	OLS
D.C.	153.30	+	.1590	D.C.	+	.5579	D.C.					R SQAR BAR=	.563	DURBIN WAT=	2.441
MVLD			(1.96)	PMN		(3.76)	MVLL					AVER % ERR=	.72	ESTIMATION=	OLS
FLOR	-360.27	+	.2940	FLOR	+	.7989	FLOR					R SQAR BAR=	.984	DURBIN WAT=	1.538
MVLD			(1.51)	PT1		(4.05)	MVLL					AVER % ERR=	3.01	ESTIMATION=	OLS
GEOR	-1069.00	+	.8456	GEOR	+	.4823	GEOR					R SQAR BAR=	.938	DURBIN WAT=	1.630
MVLD			(2.18)	PT1		(2.15)	MVLL					AVER % ERR=	4.17	ESTIMATION=	OLS
HAWA	2.23	+	.9971	HAWA								R SQAR BAR=	.908	DURBIN WAT=	1.736
MVLD			(3.10)	PT5								AVER % ERR=	3.90	ESTIMATION=	C-O
IDAH	91.54	+	.9601	IDAH								R SQAR BAR=	.924	DURBIN WAT=	1.701
MVLD			(4.70)	PT5								AVER % ERR=	2.35	ESTIMATION=	C-O
ILLI	207.82	+	1.2884	ILLI	+	.6152	ILLI	+	513.5076	ILLI		R SQAR BAR=	.959	DURBIN WAT=	2.056
MVLD			(1.73)	PMN		(3.33)	MVLL		(2.03)	YT5		AVER % ERR=	1.78	ESTIMATION=	OLS
INDI	-980.40	+	.8383	INDI	+	.3763	INDI					R SQAR BAR=	.857	DURBIN WAT=	1.977
MVLD			(2.87)	PT1		(1.62)	MVLL					AVER % ERR=	3.71	ESTIMATION=	OLS
IOWA	-154.09	+	.2377	IOWA	+	.8205	IOWA	+	.0122	IOWA		R SQAR BAR=	.988	DURBIN WAT=	2.555
MVLD			(2.15)	PT5		(9.00)	MVLL		(2.06)	DPI*		AVER % ERR=	.82	ESTIMATION=	OLS
KANS	-526.55	+	.8932	KANS	+	.4655	KANS					R SQAR BAR=	.922	DURBIN WAT=	1.865
MVLD			(2.84)	PT1		(2.17)	MVLL					AVER % ERR=	1.51	ESTIMATION=	OLS

ESTIMATION FOR: MVLD MOTOR VEHICLE, DRIVERS' LICENSES (26) LAG DEPENDENT VARIABLE: MVLL

KENT	29.02	+	.8789	KENT	+	1.0124	KENT				R SQAR BAR=	.954	DURBIN WAT=	2.333
MVLD			(1.01)	PMN		(14.16)	MVLL				AVER % ERR=	2.23	ESTIMATION=	OLS
LOUS	-5.60	+	.6813	LOUS	+	.7753	LOUS	+	155.8722	LOUS	R SQAR BAR=	.994	DURBIN WAT=	2.337
MVLD			(1.62)	PMN		(8.25)	MVLL		(2.56)	YT5	AVER % ERR=	1.16	ESTIMATION=	OLS
MAIN	30.86	+	.7365	MAIN	+	.7250	MAIN	+	42.2906	MAIN	R SQAR BAR=	.947	DURBIN WAT=	2.477
MVLD			(1.30)	PMN		(5.56)	MVLL		(2.16)	YT5	AVER % ERR=	2.34	ESTIMATION=	OLS
MARY	-330.38	+	.4324	MARY	+	.6503	MARY				R SQAR BAR=	.989	DURBIN WAT=	1.813
MVLD			(2.20)	PT1		(3.74)	MVLL				AVER % ERR=	1.82	ESTIMATION=	OLS
MASS	-49.96	+	.8391	MASS	+	161.4366	MASS				R SQAR BAR=	.946	DURBIN WAT=	2.192
MVLD			(5.85)	MVLL		(1.26)	YT5				AVER % ERR=	2.56	ESTIMATION=	OLS
MICH	5.52	+	.8618	MICH	+	211.2150	MICH				R SQAR BAR=	.949	DURBIN WAT=	2.000
MVLD			(7.04)	MVLL		(1.28)	YT5				AVER % ERR=	2.54	ESTIMATION=	OLS
MINN	426.54	+	2.1660	MINN	+	.4217	MINN	+	248.6750	MINN	R SQAR BAR=	.969	DURBIN WAT=	1.993
MVLD			(2.64)	PMN		(2.84)	MVLL		(3.72)	YT5	AVER % ERR=	1.46	ESTIMATION=	OLS
MISS	-47.03	+	.4527	MISS	+	290.2637	MISS				R SQAR BAR=	.951	DURBIN WAT=	2.411
MVLD			(2.20)	MVLL		(2.80)	YT5				AVER % ERR=	3.95	ESTIMATION=	OLS
MISR	-504.29	+	.5078	MISR	+	.4618	MISR	+	.0403	MISR	R SQAR BAR=	.961	DURBIN WAT=	2.190
MVLD			(1.40)	PT5		(2.11)	MVLL		(1.98)	DPI*	AVER % ERR=	2.00	ESTIMATION=	OLS
MONT	-16.80	+	.7165	MONT	+	1.0725	MONT				R SQAR BAR=	.965	DURBIN WAT=	2.564
MVLD			(1.93)	PMN		(21.81)	MVLL				AVER % ERR=	1.77	ESTIMATION=	OLS
NEBR	79.38	+	.3598	NEBR	+	.4733	NEBR	+	.0285	NEBR	R SQAR BAR=	.877	DURBIN WAT=	2.118
MVLD			(1.18)	PT5		(2.78)	MVLL		(1.95)	DPI*	AVER % ERR=	2.56	ESTIMATION=	OLS
NEVA	-12.71	+	.3341	NEVA	+	.7511	NEVA				R SQAR BAR=	.983	DURBIN WAT=	2.118
MVLD			(2.56)	PT1		(7.00)	MVLL				AVER % ERR=	2.81	ESTIMATION=	OLS
NHAM	-24.61	+	.8370	NHAM	+	32.4062	NHAM				R SQAR BAR=	.975	DURBIN WAT=	1.511
MVLD			(7.31)	MVLL		(1.66)	YT5				AVER % ERR=	2.39	ESTIMATION=	OLS
NJER	-1213.01	+	.5587	NJER	+	.6392	NJER				R SQAR BAR=	.988	DURBIN WAT=	2.033
MVLD			(1.29)	PT1		(2.44)	MVLL				AVER % ERR=	1.55	ESTIMATION=	OLS
NMEX	-77.62	+	.7827	NMEX	+	.2138	NMEX	+	.0404	NMEX	R SQAR BAR=	.982	DURBIN WAT=	1.702
MVLD			(2.58)	PT5		(1.22)	MVLL		(1.29)	DPI*	AVER % ERR=	1.78	ESTIMATION=	OLS
NYOR	-2960.47	+	.4606	NYOR	+	.6774	NYOR				R SQAR BAR=	.977	DURBIN WAT=	1.932
MVLD			(2.36)	PT1		(5.32)	MVLL				AVER % ERR=	1.11	ESTIMATION=	OLS
NCAR	-771.99	+	.5639	NCAR	+	.6188	NCAR				R SQAR BAR=	.996	DURBIN WAT=	2.615
MVLD			(2.52)	PT1		(3.70)	MVLL				AVER % ERR=	.85	ESTIMATION=	OLS

ESTIMATION FOR: MVLD MOTOR VEHICLE, DRIVERS' LICENSES (26) LAG DEPENDENT VARIABLE: MVLL

NDAK	97.21	+	.4755	NDAK	+	.7395	NDAK				R SQAR BAR=	.657	DURBIN WAT=	1.648
MVLD			(1.47)	PMN		(5.70)	MVLL				AVER % ERR=	2.17	ESTIMATION=	OLS
OHIO	-346.19	+	.2256	OHIO	+	1.0981	OHIO				R SQAR BAR=	.966	DURBIN WAT=	1.729
MVLD			(.23)	PMN		(20.12)	MVLL				AVER % ERR=	2.00	ESTIMATION=	OLS
OKLA	-356.40	+	1.3183	OKLA							R SQAR BAR=	.977	DURBIN WAT=	1.667
MVLD			(6.27)	PT5							AVER % ERR=	1.50	ESTIMATION=	C-O
OREG	25.02	+	.9121	OREG	+	.9985	OREG				R SQAR BAR=	.973	DURBIN WAT=	2.450
MVLD			(1.22)	PMN		(21.26)	MVLL				AVER % ERR=	2.38	ESTIMATION=	OLS
PENN	1152.82	+	.5656	PENN	+	451.0255	PENN				P SQAR BAR=	.863	DURBIN WAT=	2.550
MVLD			(3.27)	MVLL		(2.02)	YT5				AVER % ERR=	2.90	ESTIMATION=	OLS
RHIS	9.90	+	.2086	RHIS	+	.5784	RHIS	+	.0278	RHIS	R SQAR BAR=	.963	DURBIN WAT=	1.922
MVLD			(1.07)	PT5		(4.51)	MVLL		(1.87)	DPI*	AVER % ERR=	1.70	ESTIMATION=	OLS
SCAR	-256.33	+	.6902	SCAR	+	.3552	SCAR				R SQAR BAR=	.879	DURBIN WAT=	2.090
MVLD			(3.10)	PT1		(1.64)	MVLL				AVER % ERR=	4.12	ESTIMATION=	OLS
SDAK			E X O G E N O U S											
TENN	-659.66	+	.6545	TENN	+	.5083	TENN				R SQAR BAR=	.983	DURBIN WAT=	2.348
MVLD			(3.34)	PT1		(3.37)	MVLL				AVER % ERR=	1.57	ESTIMATION=	OLS
TEXA	-1203.28	+	.4686	TEXA	+	.6749	TEXA				R SQAR BAR=	.994	DURBIN WAT=	1.892
MVLD			(2.79)	PT1		(5.23)	MVLL				AVER % ERR=	1.22	ESTIMATION=	OLS
UTAH	-68.83	+	1.0718	UTAH	+	.5883	UTAH	+	109.3734	UTAH	R SQAR BAR=	.919	DURBIN WAT=	2.535
MVLD			(1.12)	PMN		(3.14)	MVLL		(2.24)	YT5	AVER % ERR=	3.39	ESTIMATION=	OLS
VERM	-31.31	+	.2674	VERM	+	.7893	VERM	+	.0208	VERM	R SQAR BAR=	.996	DURBIN WAT=	2.695
MVLD			(1.31)	PT5		(7.62)	MVLL		(1.76)	DPI*	AVER % ERR=	.99	ESTIMATION=	OLS
VIRG	-8.90	+	.7429	VIRG	+	.9066	VIRG	+	93.4569	VIRG	R SQAR BAR=	.989	DURBIN WAT=	1.581
MVLD			(1.68)	PMN		(9.63)	MVLL		(1.45)	YT5	AVER % ERR=	1.38	ESTIMATION=	OLS
WASH	-313.13	+	.4558	WASH	+	.6514	WASH				R SQAR BAR=	.982	DURBIN WAT=	2.121
MVLD			(2.17)	PT1		(3.85)	MVLL				AVER % ERR=	1.87	ESTIMATION=	OLS
WVIR	-48.10	+	1.0026	WVIR	+	1.1038	WVIR				R SQAR BAR=	.883	DURBIN WAT=	2.378
MVLD			(1.12)	PMN		(7.97)	MVLL				AVER % ERR=	3.90	ESTIMATION=	OLS
WISC	-333.67	+	.2906	WISC	+	.8116	WISC				R SQAR BAR=	.978	DURBIN WAT=	2.308
MVLD			(1.11)	PT1		(4.28)	MVLL				AVER % ERR=	1.65	ESTIMATION=	OLS
WYOM	8.66	+	.7356	WYOM	+	.8658	WYOM	+	7.9786	WYOM	R SQAR BAR=	.832	DURBIN WAT=	1.465
MVLD			(1.59)	PMN		(4.84)	MVLL		(1.14)	YT5	AVER % ERR=	2.60	ESTIMATION=	OLS

ESTIMATION FOR: PUN5 POPULATION , AGE GROUP : UNDER 5 (27) LAG DEPENDENT VARIABLE: PU5L

THE ESTIMATION PERIOD IS FROM 1953 TO 1976 EXCEPT FOR 1958 TO 1976 IN STATES: ALAS HAWA

ALAB	.00	+	.9064	ALAB	+	.8117	ALAB	+	.2344	ALAB				R SQAR BAR=	.952	DURBIN WAT=	1.694
PUN5			(3.92)	B		(17.05)	PU5L		(3.96)	PMN				AVER % ERR=	1.55	ESTIMATION=	OLS
ALAS	.00	+	.6274	ALAS	+	.8647	ALAS	+	.0581	ALAS				R SQAR BAR=	.628	DURBIN WAT=	1.557
PUN5			(1.37)	B		(9.74)	PU5L		(1.00)	PMN				AVER % ERR=	3.06	ESTIMATION=	OLS
ARIS	.00	+	.7825	ARIS	+	.8329	ARIZ	+	.1136	ARIZ				R SQAR BAR=	.940	DURBIN WAT=	1.247
PUN5			(1.91)	B		(11.27)	PU5L		(1.47)	PMN				AVER % ERR=	2.34	ESTIMATION=	OLS
ARKA	.00	+	.7837	ARKA	+	.8014	ARKA	+	.3069	U.S.				R SQAR BAR=	.648	DURBIN WAT=	2.075
PUN5			(1.66)	B		(7.10)	PU5L		(1.03)	TIME				AVER % ERR=	3.68	ESTIMATION=	OLS
CALF	.00	+	1.0262	CALF	+	.8367	CALF	+	-4.3275	U.S.				R SQAR BAR=	.958	DURBIN WAT=	1.736
PUN5			(3.41)	B		(12.48)	PU5L		(3.34)	TIME				AVER % ERR=	1.55	ESTIMATION=	OLS
COLO	.00	+	.8520	COLO	+	.8445	COLO	+	.0725	COLO	+	-.2633	U.S.	R SQAR BAR=	.951	DURBIN WAT=	1.157
PUN5			(4.49)	B		(20.62)	PU5L		(2.35)	PMN		(2.48)	TIME	AVER % ERR=	1.08	ESTIMATION=	OLS
CONN	.00	+	.7127	CONN	+	.8964	CONN	+	-.6544	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.764
PUN5			(5.77)	B		(30.59)	PU5L		(6.79)	TIME				AVER % ERR=	.59	ESTIMATION=	OLS
DELA	.00	+	1.0046	DELA	+	.8173	DELA	+	-.0725	U.S.				R SQAR BAR=	.954	DURBIN WAT=	2.036
PUN5			(3.54)	B		(11.61)	PU5L		(1.42)	TIME				AVER % ERR=	1.93	ESTIMATION=	OLS
D.C.	.00	+	.6357	D.C.	+	.9171	D.C.	+	.2061	D.C.	+	-.2882	U.S.	R SQAR BAR=	.934	DURBIN WAT=	1.847
PUN5			(2.92)	B		(20.37)	PU5L		(2.46)	PMN		(2.70)	TIME	AVER % ERR=	3.82	ESTIMATION=	OLS
FLOR	18.60	+	.8573	FLOR	+	.7802	FLOR	+	.0811	FLOR				R SQAR BAR=	.936	DURBIN WAT=	1.065
PUN5			(1.60)	B		(11.95)	PU5L		(1.71)	PMN				AVER % ERR=	2.05	ESTIMATION=	OLS
GEOR	.00	+	.7945	GEOR	+	.8305	GEOR	+	.1280	GEOR				R SQAR BAR=	.898	DURBIN WAT=	1.357
PUN5			(3.48)	B		(17.31)	PU5L		(1.83)	PMN				AVER % ERR=	1.33	ESTIMATION=	OLS
HAWA	.00	+	1.0003	HAWA	+	.7846	HAWA	+	.0598	HAWA				R SQAR BAR=	.792	DURBIN WAT=	1.586
PUN5			(2.50)	B		(9.29)	PU5L		(.84)	PMN				AVER % ERR=	1.94	ESTIMATION=	OLS
IDAH	.00	+	.8275	IDAH	+	.8275	IDAH	+	.1380	IDAH				R SQAR BAR=	.942	DURBIN WAT=	1.558
PUN5			(3.95)	B		(18.92)	PU5L		(3.43)	PMN				AVER % ERR=	1.45	ESTIMATION=	OLS
ILLI	-36.46	+	.6883	ILLI	+	.8644	ILLI	+	-.9503	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.062
PUN5			(3.38)	B		(21.82)	PU5L		(1.21)	TIME				AVER % ERR=	.86	ESTIMATION=	OLS
INDI	.00	+	.7301	INDI	+	.8653	INDI	+	.0518	INDI	+	-.5962	U.S.	R SQAR BAR=	.989	DURBIN WAT=	.960
PUN5			(4.75)	B		(24.82)	PU5L		(1.20)	PMN		(3.50)	TIME	AVER % ERR=	.66	ESTIMATION=	OLS
IOWA	.00	+	.9973	IOWA	+	.8047	IOWA	+	.0908	IOWA	+	-.2251	U.S.	R SQAR BAR=	.988	DURBIN WAT=	2.081
PUN5			(4.09)	B		(15.27)	PU5L		(1.75)	PMN		(1.84)	TIME	AVER % ERR=	1.11	ESTIMATION=	OLS
KANS	.00	+	1.0081	KANS	+	.7956	KANS	+	.0386	KANS	+	-.1067	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.019
PUN5			(4.69)	B		(15.85)	PU5L		(.61)	PMN		(.99)	TIME	AVER % ERR=	1.21	ESTIMATION=	OLS

ESTIMATION FOR: PUN5 POPULATION , AGE GROUP : UNDER 5 (27) LAG DEPENDENT VARIABLE: PU5L

KENT	.00	+	.8089	KENT	+	.8280	KENT	+	.1405	KENT				R SQAR BAR=	.946	DURBIN WAT=	1.408
PUN5			(3.42)	B		(17.04)	PU5L		(2.10)	PMN				AVER % ERR=	1.66	ESTIMATION=	OLS
LOUS	.00	+	1.0199	LOUS	+	.7845	LOUS	+	.1032	LOUS				R SQAR BAR=	.973	DURBIN WAT=	1.516
PUN5			(5.97)	B		(21.91)	PU5L		(1.49)	PMN				AVER % ERR=	1.14	ESTIMATION=	OLS
MAIN	.00	+	1.0096	MAIN	+	.7911	MAIN	+	.1049	MAIN				R SQAR BAR=	.965	DURBIN WAT=	1.756
PUN5			(4.99)	B		(19.40)	PU5L		(1.87)	PMN				AVER % ERR=	1.69	ESTIMATION=	OLS
MARY	-2.89	+	.9712	MARY	+	.8086	MARY	+	.1188	MARY				R SQAR BAR=	.981	DURBIN WAT=	1.378
PUN5			(8.01)	B		(23.70)	PU5L		(2.25)	PMN				AVER % ERR=	1.07	ESTIMATION=	OLS
MASS	5.51	+	.7479	MASS	+	.8642	MASS	+	.1456	MASS	+	-1.0553	U.S.	R SQAR BAR=	.984	DURBIN WAT=	2.181
PUN5			(2.51)	B		(18.04)	PU5L		(3.34)	PMN		(2.16)	TIME	AVER % ERR=	1.14	ESTIMATION=	C-O
MICH	.00	+	.9256	MICH	+	.8217	MICH	+	-.7958	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.757
PUN5			(7.68)	B		(29.35)	PU5L		(2.97)	TIME				AVER % ERR=	.61	ESTIMATION=	OLS
MINN	.00	+	.9719	MINN	+	.8104	MINN	+	-.3119	U.S.				R SQAR BAR=	.992	DURBIN WAT=	1.255
PUN5			(6.69)	B		(24.85)	PU5L		(2.33)	TIME				AVER % ERR=	.88	ESTIMATION=	OLS
MISS	.00	+	1.0635	MISS	+	.7765	MISS	+	.1535	MISS				R SQAR BAR=	.926	DURBIN WAT=	2.397
PUN5			(3.39)	B		(11.76)	PU5L		(2.73)	PMN				AVER % ERR=	1.70	ESTIMATION=	OLS
MISR	.00	+	.8751	MISR	+	.8325	MISR	+	.0357	MISR	+	-.5106	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.414
PUN5			(5.93)	B		(25.23)	PU5L		(.81)	PMN		(3.66)	TIME	AVER % ERR=	.89	ESTIMATION=	OLS
MONT	-6.14	+	.7853	MONT	+	.9225	MONT	+	.2006	MONT				R SQAR BAR=	.993	DURBIN WAT=	2.065
PUN5			(6.66)	B		(27.32)	PU5L		(5.34)	PMN				AVER % ERR=	.91	ESTIMATION=	OLS
NEBR	.00	+	.8743	NEBR	+	.8307	NEBR	+	.0714	NEBR	+	-.1363	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.430
PUN5			(4.16)	B		(17.28)	PU5L		(1.24)	PMN		(1.81)	TIME	AVER % ERR=	1.43	ESTIMATION=	OLS
NEVA	-1.10	+	1.1067	NEVA	+	.8863	NEVA	+	.0951	NEVA	+	-.2315	U.S.	R SQAR BAR=	.956	DURBIN WAT=	1.040
PUN5			(1.34)	B		(8.82)	PU5L		(1.80)	PMN		(2.01)	TIME	AVER % ERR=	3.22	ESTIMATION=	OLS
NHAM	-2.23	+	.7976	NHAM	+	.8910	NHAM	+	.1134	NHAM	+	-.1008	U.S.	R SQAR BAR=	.949	DURBIN WAT=	2.697
PUN5			(2.42)	B		(11.69)	PU5L		(2.14)	PMN		(1.75)	TIME	AVER % ERR=	1.11	ESTIMATION=	OLS
NJER	-29.69	+	1.1459	NJER	+	.8333	NJER	+	-.4634	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.077
PUN5			(5.40)	B		(22.13)	PU5L		(1.25)	TIME				AVER % ERR=	.60	ESTIMATION=	OLS
NMEX	-12.98	+	.9178	NMEX	+	.9151	NMEX	+	.1411	NMEX				R SQAR BAR=	.981	DURBIN WAT=	1.640
PUN5			(3.56)	B		(12.60)	PU5L		(2.49)	PMN				AVER % ERR=	1.34	ESTIMATION=	C-O
NYOR	.00	+	1.1652	NYOR	+	.7579	NYOR	+	.0665	NYOR				R SQAR BAR=	.978	DURBIN WAT=	1.560
PUN5			(4.96)	B		(15.76)	PU5L		(.86)	PMN				AVER % ERR=	1.28	ESTIMATION=	OLS
NCAR	.00	+	.9047	NCAR	+	.8076	NCAR	+	.1423	NCAR				R SQAR BAR=	.967	DURBIN WAT=	1.007
PUN5			(5.25)	B		(22.69)	PU5L		(3.00)	PMN				AVER % ERR=	1.12	ESTIMATION=	OLS

ESTIMATION FOR: PUN5 POPULATION , AGE GROUP : UNDER 5 (27) LAG DEPENDENT VARIABLE: PU5L

NDAK	.00	+	.8303	NDAK	+	.8491	NDAK	+	.1460	NDAK	+	-.0901	U.S.	R SQAR BAR=	.989	DURBIN WAT=	2.517
PUN5			(4.31)	B		(19.41)	PU5L		(3.27)	PMN		(2.89)	TIME	AVER % ERR=	1.49	ESTIMATION=	OLS
OHIO	.00	+	.9892	OHIO	+	.8140	OHIO	+	.0245	OHIO	+	-1.2152	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.333
PUN5			(5.32)	B		(20.17)	PU5L		(.55)	PMN		(2.98)	TIME	AVER % ERR=	.78	ESTIMATION=	OLS
OKLA	.00	+	.8165	OKLA	+	.8272	OKLA	+	.1354	OKLA				R SQAR BAR=	.884	DURBIN WAT=	1.630
PUN5			(3.10)	B		(15.24)	PU5L		(2.63)	PMN				AVER % ERR=	1.93	ESTIMATION=	OLS
OREG	6.19	+	.8466	OREG	+	.8045	OREG	+	.0818	OREG	+	-.2197	U.S.	R SQAR BAR=	.971	DURBIN WAT=	1.863
PUN5			(3.67)	B		(10.26)	PU5L		(2.53)	PMN		(1.60)	TIME	AVER % ERR=	.71	ESTIMATION=	OLS
PENN	-59.05	+	.9825	PENN	+	.8506	PENN	+	.0753	PENN				R SQAR BAR=	.995	DURBIN WAT=	1.631
PUN5			(8.70)	B		(25.11)	PU5L		(1.83)	PMN				AVER % ERR=	.67	ESTIMATION=	OLS
RHIS	-1.68	+	.7628	RHIS	+	.8809	RHIS	+	-.1197	U.S.				R SQAR BAR=	.989	DURBIN WAT=	1.706
PUN5			(2.62)	B		(13.30)	PU5L		(2.02)	TIME				AVER % ERR=	.91	ESTIMATION=	OLS
SCAR	.00	+	.7060	SCAR	+	.8502	SCAR	+	.1476	SCAR				R SQAR BAR=	.943	DURBIN WAT=	1.499
PUN5			(3.47)	B		(20.40)	PU5L		(2.32)	PMN				AVER % ERR=	1.54	ESTIMATION=	OLS
SDAK	.00	+	1.0077	SDAK	+	.7942	SDAK	+	.0704	SDAK	+	-.0311	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.925
PUN5			(4.21)	B		(14.06)	PU5L		(1.17)	PMN		(.73)	TIME	AVER % ERR=	1.58	ESTIMATION=	OLS
TENN	.00	+	.8933	TENN	+	.8080	TENN	+	.1359	TENN				R SQAR BAR=	.957	DURBIN WAT=	1.205
PUN5			(4.19)	B		(18.19)	PU5L		(2.85)	PMN				AVER % ERR=	1.33	ESTIMATION=	OLS
TEXA	.00	+	.6621	TEXA	+	.8777	TEXA	+	.1097	TEXA	+	-1.4136	U.S.	R SQAR BAR=	.940	DURBIN WAT=	.832
PUN5			(3.64)	B		(20.39)	PU5L		(1.74)	PMN		(2.10)	TIME	AVER % ERR=	1.13	ESTIMATION=	OLS
UTAH	.00	+	.8432	UTAH	+	.8457	UTAH	+	.1149	UTAH	+	-.1418	U.S.	R SQAR BAR=	.960	DURBIN WAT=	1.552
PUN5			(6.49)	B		(32.30)	PU5L		(2.36)	PMN		(2.43)	TIME	AVER % ERR=	1.03	ESTIMATION=	OLS
VERM	.00	+	.8125	VERM	+	.8298	VERM	+	.0339	VERM				R SQAR BAR=	.836	DURBIN WAT=	2.470
PUN5			(2.10)	B		(10.67)	PU5L		(.43)	PMN				AVER % ERR=	1.92	ESTIMATION=	OLS
VIRG	-16.62	+	1.0096	VIRG	+	.8301	VIRG	+	.0391	VIRG				R SQAR BAR=	.966	DURBIN WAT=	1.020
PUN5			(5.41)	B		(14.63)	PU5L		(.79)	PMN				AVER % ERR=	1.04	ESTIMATION=	OLS
WASH	3.52	+	.8763	WASH	+	.8202	WASH	+	-.2185	U.S.				R SQAR BAR=	.983	DURBIN WAT=	1.920
PUN5			(5.35)	B		(21.16)	PU5L		(1.43)	TIME				AVER % ERR=	.74	ESTIMATION=	OLS
WVIR	.00	+	.5446	WVIR	+	.8835	WVIR	+	.1395	WVIR				R SQAR BAR=	.968	DURBIN WAT=	2.291
PUN5			(1.54)	B		(12.09)	PU5L		(2.42)	PMN				AVER % ERR=	1.92	ESTIMATION=	OLS
WISC	-36.60	+	1.1231	WISC	+	.8548	WISC	+	.0758	WISC				R SQAR BAR=	.995	DURBIN WAT=	1.478
PUN5			(13.49)	B		(37.13)	PU5L		(1.63)	PMN				AVER % ERR=	.57	ESTIMATION=	OLS
WYOM	.00	+	.7282	WYOM	+	.8451	WYOM	+	.0951	WYOM				R SQAR BAR=	.973	DURBIN WAT=	1.421
PUN5			(3.91)	B		(21.34)	PU5L		(3.40)	PMN				AVER % ERR=	1.70	ESTIMATION=	OLS

ESTIMATION FOR: P517 POPULATION , AGE GROUP : 5 TO 17 (28) LAG DEPENDENT VARIABLE: P51L

THE ESTIMATION PERIOD IS FROM 1953 TO 1976 EXCEPT FOR 1958 TO 1976 IN STATES: ALAS HAWA

ALAB	.00	+	.9082	ALAB	+	.2477	ALAB	+	.0758	ALAB		R SQAR BAR=	.979	DURBIN WAT=	1.918
P517			(63.77)	P51L		(6.60)	PU5L		(1.52)	PMN		AVER % ERR=	.53	ESTIMATION=	OLS
ALAS	.00	+	.8983	ALAS	+	.2913	ALAS	+	.1490	ALAS		R SQAR BAR=	.889	DURBIN WAT=	1.802
P517			(11.47)	P51L		(1.81)	PU5L		(.68)	PMN		AVER % ERR=	3.32	ESTIMATION=	OLS
ARIS	.00	+	.8913	ARIZ	+	.2845	ARIS	+	.2622	ARIS		R SQAR BAR=	.997	DURBIN WAT=	2.189
P517			(48.29)	P51L		(6.65)	PU5L		(4.69)	PMN		AVER % ERR=	.97	ESTIMATION=	OLS
ARKA	.00	+	.9429	ARKA	+	.1568	ARKA	+	.1583	ARKA		R SQAR BAR=	.879	DURBIN WAT=	1.927
P517			(36.31)	P51L		(2.30)	PU5L		(3.96)	PMN		AVER % ERR=	.68	ESTIMATION=	OLS
CALF	.00	+	.8989	CALF	+	.2783	CALF	+	.2616	CALF		R SQAR BAR=	.998	DURBIN WAT=	2.043
P517			(50.69)	P51L		(5.16)	PU5L		(2.63)	PMN		AVER % ERR=	.70	ESTIMATION=	OLS
COLO	-11.06	+	.9047	COLO	+	.3234	COLO	+	.2424	COLO		R SQAR BAR=	.999	DURBIN WAT=	1.575
P517			(49.51)	P51L		(2.66)	PU5L		(6.33)	PMN		AVER % ERR=	.52	ESTIMATION=	C-O
CONN	.00	+	.9201	CONN	+	.2368	CONN	+	.2517	CONN		R SQAR BAR=	.999	DURBIN WAT=	1.485
P517			(99.99)	P51L		(13.42)	PU5L		(6.85)	PMN		AVER % ERR=	.41	ESTIMATION=	OLS
DELA	.00	+	.9107	DELA	+	.2553	DELA	+	.2245	DELA		R SQAR BAR=	.997	DURBIN WAT=	1.474
P517			(76.66)	P51L		(8.13)	PU5L		(3.13)	PMN		AVER % ERR=	.86	ESTIMATION=	OLS
D.C.	7.45	+	.8755	D.C.	+	.1854	D.C.	+	.1643	D.C.		R SQAR BAR=	.810	DURBIN WAT=	2.359
P517			(9.91)	P51L		(1.40)	PU5L		(.90)	PMN		AVER % ERR=	3.39	ESTIMATION=	OLS
FLOR	.00	+	.8819	FLOR	+	.3094	FLOR	+	.2190	FLOR		R SQAR BAR=	.997	DURBIN WAT=	1.860
P517			(53.50)	P51L		(7.49)	PU5L		(4.66)	PMN		AVER % ERR=	.91	ESTIMATION=	OLS
GEOR	21.53	+	.8919	GEOR	+	.2446	GEOR	+	.1752	GEOR		R SQAR BAR=	.998	DURBIN WAT=	1.777
P517			(65.46)	P51L		(5.47)	PU5L		(3.20)	PMN		AVER % ERR=	.35	ESTIMATION=	OLS
HAWA	21.93	+	.8119	HAWA	+	.2076	HAWA	+	.2763	HAWA		R SQAR BAR=	.958	DURBIN WAT=	1.872
P517			(17.89)	P51L		(.89)	PU5L		(1.76)	PMN		AVER % ERR=	1.28	ESTIMATION=	OLS
IDAH	.00	+	.9137	IDAH	+	.2481	IDAH	+	.2020	IDAH		R SQAR BAR=	.986	DURBIN WAT=	1.722
P517			(54.27)	P51L		(5.85)	PU5L		(3.58)	PMN		AVER % ERR=	.79	ESTIMATION=	OLS
ILLI	.00	+	.9136	ILLI	+	.2499	ILLI	+	.3301	ILLI		R SQAR BAR=	.998	DURBIN WAT=	1.489
P517			(99.99)	P51L		(13.19)	PU5L		(5.11)	PMN		AVER % ERR=	.49	ESTIMATION=	OLS
INDI	.00	+	.9068	INDI	+	.2643	INDI	+	.2867	INDI		R SQAR BAR=	.997	DURBIN WAT=	1.432
P517			(99.99)	P51L		(14.61)	PU5L		(4.39)	PMN		AVER % ERR=	.48	ESTIMATION=	OLS
IOWA	.00	+	.9186	IOWA	+	.2419	IOWA	+	.3441	IOWA		R SQAR BAR=	.990	DURBIN WAT=	1.962
P517			(99.99)	P51L		(10.66)	PU5L		(5.54)	PMN		AVER % ERR=	.54	ESTIMATION=	OLS
KANS	.00	+	.9088	KANS	+	.2530	KANS	+	.1666	KANS		R SQAR BAR=	.993	DURBIN WAT=	.941
P517			(99.99)	P51L		(13.43)	PU5L		(3.07)	PMN		AVER % ERR=	.51	ESTIMATION=	OLS

ESTIMATION FOR: P517 POPULATION , AGE GROUP : 5 TO 17 (28) LAG DEPENDENT VARIABLE: P51L

KENT	.00	+	.9163	KENT	+	.2315	KENT	+	.1494	KENT	R SQAR BAR=	.966	DURBIN WAT=	1.499
P517			(43.00)	P51L		(4.02)	PU5L		(1.66)	PMN	AVER % ERR=	.55	ESTIMATION=	OLS
LOUS	2.11	+	.9076	LOUS	+	.2526	LOUS	+	.1935	LOUS	R SQAR BAR=	.997	DURBIN WAT=	1.900
P517			(88.52)	P51L		(7.55)	PU5L		(3.02)	PMN	AVER % ERR=	.42	ESTIMATION=	OLS
MAIN	5.31	+	.9049	MAIN	+	.2089	MAIN	+	.2356	MAIN	R SQAR BAR=	.986	DURBIN WAT=	2.232
P517			(37.41)	P51L		(4.07)	PU5L		(3.52)	PMN	AVER % ERR=	.57	ESTIMATION=	OLS
MARY	5.55	+	.9068	MARY	+	.2466	MARY	+	.3060	MARY	R SQAR BAR=	.999	DURBIN WAT=	1.735
P517			(99.99)	P51L		(7.39)	PU5L		(6.01)	PMN	AVER % ERR=	.44	ESTIMATION=	OLS
MASS	-1.92	+	.9234	MASS	+	.2271	MASS	+	.1804	MASS	R SQAR BAR=	.996	DURBIN WAT=	2.546
P517			(75.15)	P51L		(6.00)	PU5L		(3.22)	PMN	AVER % ERR=	.53	ESTIMATION=	OLS
MICH	.00	+	.9146	MICH	+	.2486	MICH	+	.2622	MICH	R SQAR BAR=	.997	DURBIN WAT=	.913
P517			(99.99)	P51L		(12.59)	PU5L		(4.14)	PMN	AVER % ERR=	.64	ESTIMATION=	OLS
MINN	.00	+	.9156	MINN	+	.2466	MINN	+	.3312	MINN	R SQAR BAR=	.997	DURBIN WAT=	1.708
P517			(99.99)	P51L		(13.82)	PU5L		(3.60)	PMN	AVER % ERR=	.52	ESTIMATION=	OLS
MISS	.00	+	.9151	MISS	+	.2293	MISS	+	.1935	MISS	R SQAR BAR=	.945	DURBIN WAT=	1.920
P517			(47.39)	P51L		(4.63)	PU5L		(3.39)	PMN	AVER % ERR=	.71	ESTIMATION=	OLS
MISR	.00	+	.9132	MISR	+	.2465	MISR	+	.3928	MISR	R SQAR BAR=	.997	DURBIN WAT=	1.208
P517			(99.99)	P51L		(13.34)	PU5L		(6.42)	PMN	AVER % ERR=	.50	ESTIMATION=	OLS
MONT	.00	+	.9179	MONT	+	.2345	MONT	+	.1493	MONT	R SQAR BAR=	.992	DURBIN WAT=	1.995
P517			(99.99)	P51L		(11.18)	PU5L		(2.97)	PMN	AVER % ERR=	.59	ESTIMATION=	OLS
NEBR	.00	+	.9146	NEBR	+	.2408	NEBR	+	.2297	NEBR	R SQAR BAR=	.995	DURBIN WAT=	1.578
P517			(99.99)	P51L		(12.86)	PU5L		(5.16)	PMN	AVER % ERR=	.49	ESTIMATION=	OLS
NEVA	.00	+	.9186	NEVA	+	.2222	NEVA	+	.2531	NEVA	R SQAR BAR=	.998	DURBIN WAT=	1.897
P517			(51.58)	P51L		(5.01)	PU5L		(7.52)	PMN	AVER % ERR=	1.17	ESTIMATION=	OLS
NHAM	-1.12	+	.9154	NHAM	+	.2617	NHAM	+	.2429	NHAM	R SQAR BAR=	.998	DURBIN WAT=	3.018
P517			(85.12)	P51L		(4.10)	PU5L		(4.05)	PMN	AVER % ERR=	.51	ESTIMATION=	OLS
NJER	4.08	+	.9238	NJER	+	.2184	NJER	+	.3265	NJER	R SQAR BAR=	.998	DURBIN WAT=	1.650
P517			(81.13)	P51L		(4.55)	PU5L		(3.60)	PMN	AVER % ERR=	.54	ESTIMATION=	OLS
NMEX	7.23	+	.9004	NMEX	+	.2106	NMEX	+	.1601	NMEX	R SQAR BAR=	.997	DURBIN WAT=	2.019
P517			(86.51)	P51L		(6.58)	PU5L		(3.84)	PMN	AVER % ERR=	.51	ESTIMATION=	OLS
NYOR	36.39	+	.9127	NYOR	+	.2264	NYOR	+	.2004	NYOR	R SQAR BAR=	.995	DURBIN WAT=	2.460
P517			(58.22)	P51L		(5.14)	PU5L		(2.05)	PMN	AVER % ERR=	.55	ESTIMATION=	OLS
NCAR	27.54	+	.8780	NCAR	+	.2721	NCAR	+	.2173	NCAR	R SQAR BAR=	.990	DURBIN WAT=	1.718
P517			(40.92)	P51L		(5.62)	PU5L		(3.80)	PMN	AVER % ERR=	.46	ESTIMATION=	OLS

ESTIMATION FOR: P517 POPULATION , AGE GROUP : 5 TO 17 (28) LAG DEPENDENT VARIABLE: P51L

NDAK	-3.43	+	.9384	NDAK	+	.2397	NDAK	+	.3286	NDAK	R SQAR BAR=	.952	DURBIN WAT=	2.389
P517			(20.96)	P51L		(6.10)	PU5L		(4.98)	PMN	AVER % ERR=	.97	ESTIMATION=	OLS
OHIO	.00	+	.9383	OHIO	+	.2615	OHIO	+	.2367	OHIO	R SQAR BAR=	.996	DURBIN WAT=	1.025
P517			(94.16)	P51L		(11.15)	PU5L		(3.65)	PMN	AVER % ERR=	.61	ESTIMATION=	OLS
OKLA	.00	+	.9057	OKLA	+	.2624	OKLA	+	.2276	OKLA	R SQAR BAR=	.974	DURBIN WAT=	1.148
P517			(43.03)	P51L		(4.78)	PU5L		(3.74)	PMN	AVER % ERR=	.71	ESTIMATION=	OLS
OREG	.00	+	.9054	OREG	+	.2740	OREG	+	.2356	OREG	R SQAR BAR=	.995	DURBIN WAT=	1.103
P517			(64.37)	P51L		(8.31)	PU5L		(2.97)	PMN	AVER % ERR=	.68	ESTIMATION=	OLS
PENN	.00	+	.9137	PENN	+	.2463	PENN	+	.2070	PENN	R SQAR BAR=	.993	DURBIN WAT=	1.868
P517			(99.99)	P51L		(11.52)	PU5L		(2.70)	PMN	AVER % ERR=	.53	ESTIMATION=	OLS
RHIS	.75	+	.9161	RHIS	+	.2315	RHIS	+	.1522	RHIS	R SQAR BAR=	.996	DURBIN WAT=	2.199
P517			(70.81)	P51L		(5.37)	PU5L		(4.46)	PMN	AVER % ERR=	.51	ESTIMATION=	OLS
SCAR	32.11	+	.8673	SCAR	+	.2367	SCAR	+	.1794	SCAR	R SQAR BAR=	.982	DURBIN WAT=	1.534
P517			(27.25)	P51L		(4.15)	PU5L		(2.53)	PMN	AVER % ERR=	.51	ESTIMATION=	OLS
SDAK	.00	+	.9094	SDAK	+	.2579	SDAK	+	.3084	SDAK	R SQAR BAR=	.985	DURBIN WAT=	1.916
P517			(97.26)	P51L		(10.79)	PU5L		(6.29)	PMN	AVER % ERR=	.71	ESTIMATION=	OLS
TENN	36.30	+	.8752	TENN	+	.2412	TENN	+	.2473	TENN	R SQAR BAR=	.989	DURBIN WAT=	1.489
P517			(33.12)	P51L		(4.57)	PU5L		(4.06)	PMN	AVER % ERR=	.46	ESTIMATION=	OLS
TEXA	.00	+	.9018	TEXA	+	.2735	TEXA	+	.1518	TEXA	R SQAR BAR=	.996	DURBIN WAT=	1.572
P517			(65.58)	P51L		(8.52)	PU5L		(2.02)	PMN	AVER % ERR=	.59	ESTIMATION=	OLS
UTAH	12.36	+	.8831	UTAH	+	.2096	UTAH	+	.2332	UTAH	R SQAR BAR=	.998	DURBIN WAT=	2.057
P517			(29.91)	P51L		(1.93)	PU5L		(4.52)	PMN	AVER % ERR=	.47	ESTIMATION=	C-O
VERM	.00	+	.9195	VERM	+	.2312	VERM	+	.2413	VERM	R SQAR BAR=	.993	DURBIN WAT=	1.739
P517			(59.21)	P51L		(5.94)	PU5L		(4.05)	PMN	AVER % ERR=	.61	ESTIMATION=	OLS
VIRG	9.06	+	.9032	VIRG	+	.2497	VIRG	+	.1794	VIRG	R SQAR BAR=	.997	DURBIN WAT=	1.941
P517			(81.13)	P51L		(6.11)	PU5L		(3.59)	PMN	AVER % ERR=	.48	ESTIMATION=	OLS
WASH	.00	+	.9038	WASH	+	.2719	WASH	+	.3321	WASH	R SQAR BAR=	.998	DURBIN WAT=	1.473
P517			(99.99)	P51L		(17.13)	PU5L		(12.29)	PMN	AVER % ERR=	.44	ESTIMATION=	OLS
WVIR	.00	+	.9014	WVIR	+	.2684	WVIR	+	.2024	WVIR	R SQAR BAR=	.974	DURBIN WAT=	1.865
P517			(21.13)	P51L		(2.10)	PU5L		(1.73)	PMN	AVER % ERR=	.89	ESTIMATION=	OLS
WISC	.00	+	.9210	WISC	+	.2343	WISC	+	.1416	WISC	R SQAR BAR=	.998	DURBIN WAT=	1.581
P517			(99.99)	P51L		(16.90)	PU5L		(1.92)	PMN	AVER % ERR=	.42	ESTIMATION=	OLS
WYOM	3.25	+	.8835	WYOM	+	.2258	WYOM	+	.2004	WYOM	R SQAR BAR=	.983	DURBIN WAT=	2.157
P517			(35.30)	P51L		(4.14)	PU5L		(5.16)	PMN	AVER % ERR=	.86	ESTIMATION=	OLS

ESTIMATION FOR: P184 POPULATION , AGE GROUP : 18 TO 44 (29) LAG DEPENDENT VARIABLE: P18L

THE ESTIMATION PERIOD IS FROM 1953 TO 1976 EXCEPT FOR 1958 TO 1976 IN STATES: ALAS HAWA

ALAB	-271.13	+	.7718	ALAB	+	7.6141	ALAB	+	.1964	ALAB				R SQAR BAR=	.969	DURBIN WAT=	1.611
P184			(7.46)	P18L		(3.96)	Y4RL		(1.11)	ET3				AVER % ERR=	.96	ESTIMATION=	OLS
ALAS	-29.54	+	.6598	ALAS	+	41.1238	ALAS	+	1.4394	U.S.				R SQAR BAR=	.970	DURBIN WAT=	1.741
P184			(3.98)	P18L		(3.75)	Y4RM		(2.20)	TIME				AVER % ERR=	2.24	ESTIMATION=	OLS
ARIS	-181.80	+	1.0288	ARIZ	+	2.0068	ARIZ	+	.3475	ARIZ				R SQAR BAR=	.997	DURBIN WAT=	2.351
P184			(79.03)	P18L		(2.95)	Y4RL		(2.11)	ET3M				AVER % ERR=	.88	ESTIMATION=	OLS
ARKA	-114.29	+	.6258	ARKA	+	4.9534	ARKA	+	.6034	ARKA				R SQAR BAR=	.986	DURBIN WAT=	1.937
P184			(9.41)	P18L		(7.88)	Y4RL		(2.35)	ET3M				AVER % ERR=	.93	ESTIMATION=	OLS
CALF	-74.18	+	.7731	CALF	+	8.2872	CALF	+	.1524	CALF	+	46.1691	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.722
P184			(5.10)	P18L		(.73)	Y4RL		(.49)	ET3M		(2.06)	TIME	AVER % ERR=	.65	ESTIMATION=	OLS
COLO	14.33	+	.9591	COLO	+	.5717	COLO	+	1.9726	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.376
P184			(16.58)	P18L		(2.92)	ET3		(1.62)	TIME				AVER % ERR=	1.12	ESTIMATION=	OLS
CONN	-185.20	+	.9396	CONN	+	1.7295	CONN	+	2.7711	U.S.				R SQAR BAR=	.990	DURBIN WAT=	1.344
P184			(8.19)	P18L		(1.22)	Y4RL		(1.81)	TIME				AVER % ERR=	.71	ESTIMATION=	OLS
DELA	-7.09	+	1.0594	DELA	+	.5992	DELA							R SQAR BAR=	.990	DURBIN WAT=	1.544
P184			(43.34)	P18L		(3.09)	ET3M							AVER % ERR=	.95	ESTIMATION=	OLS
D.C.	79.86	+	.7164	D.C.	+	.5734	D.C.	+	.5111	U.S.				R SQAR BAR=	.689	DURBIN WAT=	1.923
P184			(6.25)	P18L		(2.12)	ET3M		(1.37)	TIME				AVER % ERR=	2.26	ESTIMATION=	OLS
FLOR	-398.44	+	.9813	FLOR	+	541.6027	FLOR	+	.2519	FLOR				R SQAR BAR=	.992	DURBIN WAT=	1.165
P184			(21.95)	P18L		(1.46)	Y4RM		(.92)	ET3M				AVER % ERR=	1.38	ESTIMATION=	OLS
GEOR	-277.98	+	.9784	GEOR	+	4.2088	GEOR	+	.2563	GEOR				R SQAR BAR=	.997	DURBIN WAT=	1.328
P184			(19.14)	P18L		(2.20)	Y4RL		(2.24)	ET3				AVER % ERR=	.52	ESTIMATION=	OLS
HAWA	-27.21	+	.8396	HAWA	+	50.7247	HAWA	+	.3247	HAWA	+	1.3627	U.S.	R SQAR BAR=	.985	DURBIN WAT=	2.749
P184			(6.88)	P18L		(1.01)	Y4RM		(1.44)	ET3M		(1.72)	TIME	AVER % ERR=	1.16	ESTIMATION=	OLS
IDAH	8.60	+	.9403	IDAH	+	.9048	IDAH	+	.5397	U.S.				R SQAR BAR=	.990	DURBIN WAT=	1.680
P184			(16.02)	P18L		(3.91)	ET3M		(2.86)	TIME				AVER % ERR=	.92	ESTIMATION=	OLS
ILLI	-5.84	+	.9913	ILLI	+	.1646	ILLI	+	4.9069	U.S.				R SQAR BAR=	.986	DURBIN WAT=	1.338
P184			(16.00)	P18L		(.59)	ET3		(2.16)	TIME				AVER % ERR=	.66	ESTIMATION=	OLS
INDI	-266.09	+	1.0025	INDI	+	2.4535	INDI	+	.1001	INDI	+	2.4904	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.151
P184			(16.29)	P18L		(1.18)	Y4RL		(.71)	ET3		(2.04)	TIME	AVER % ERR=	.61	ESTIMATION=	OLS
IOWA	-10.19	+	.9879	IOWA	+	.0903	IOWA	+	1.7034	U.S.				R SQAR BAR=	.960	DURBIN WAT=	1.408
P184			(16.41)	P18L		(.48)	ET3		(3.68)	TIME				AVER % ERR=	.83	ESTIMATION=	OLS
KANS	-166.39	+	1.0028	KANS	+	1.6130	KANS	+	.6884	U.S.				R SQAR BAR=	.953	DURBIN WAT=	1.201
P184			(12.20)	P18L		(1.74)	Y4RL		(1.46)	TIME				AVER % ERR=	1.01	ESTIMATION=	OLS

ESTIMATION FOR: P184 POPULATION , AGE GROUP : 18 TO 44 (29) LAG DEPENDENT VARIABLE: P18L

KENT	-278.66	+	.9295	KENT	+	476.1438	KENT	+	.2458	KENT					R SQAR BAR=	.986	DURBIN WAT=	1.173
P184			(11.86)	P18L		(2.62)	Y4RM		(1.40)	ET3M					AVER % ERR=	.72	ESTIMATION=	OLS
LOUS	-24.26	+	.8565	LOUS	+	1.9611	LOUS	+	.3080	LOUS	+	3.5089	U.S.		R SQAR BAR=	.994	DURBIN WAT=	2.278
P184			(10.82)	P18L		(1.09)	YT4R		(3.06)	ET3		(3.06)	TIME		AVER % ERR=	.55	ESTIMATION=	OLS
MAIN	-186.73	+	.9947	MAIN	+	2.2089	MAIN	+	.6972	MAIN	+	.4430	U.S.		R SQAR BAR=	.968	DURBIN WAT=	2.353
P184			(12.01)	P18L		(3.86)	Y4RL		(1.90)	ET3M		(2.46)	TIME		AVER % ERR=	.76	ESTIMATION=	OLS
MARY	-243.74	+	.9624	MARY	+	2.6312	MARY	+	.4276	MARY	+	2.5580	U.S.		R SQAR BAR=	.996	DURBIN WAT=	1.543
P184			(13.23)	P18L		(1.34)	Y4RL		(1.75)	ET3		(1.28)	TIME		AVER % ERR=	.67	ESTIMATION=	OLS
MASS	94.10	+	.9164	MASS	+	.0511	MASS	+	5.0187	U.S.					R SQAR BAR=	.981	DURBIN WAT=	1.958
P184			(15.48)	P18L		(.19)	ET3M		(3.89)	TIME					AVER % ERR=	.95	ESTIMATION=	OLS
MICH	-763.96	+	.9945	MICH	+	6.7963	MICH	+	.2689	MICH	+	5.5571	U.S.		R SQAR BAR=	.990	DURBIN WAT=	2.012
P184			(18.71)	P18L		(3.17)	Y4RL		(1.79)	ET3M		(2.29)	TIME		AVER % ERR=	.71	ESTIMATION=	OLS
MINN	-31.36	+	1.0137	MINN	+	.2267	MINN	+	2.2154	U.S.					R SQAR BAR=	.994	DURBIN WAT=	.993
P184			(24.53)	P18L		(1.36)	ET3		(2.78)	TIME					AVER % ERR=	.67	ESTIMATION=	OLS
MISS	24.95	+	.6558	MISS	+	366.4756	MISS								R SQAR BAR=	.907	DURBIN WAT=	1.621
P184			(4.79)	P18L		(3.61)	Y4RM								AVER % ERR=	1.60	ESTIMATION=	OLS
MISR	-1114.95	+	1.1375	MISR	+	9.4764	MISR	+	.9810	U.S.					R SQAR BAR=	.994	DURBIN WAT=	1.830
P184			(22.72)	P18L		(3.86)	Y4RL		(1.42)	TIME					AVER % ERR=	.47	ESTIMATION=	OLS
MONT	17.79	+	.9052	MONT	+	.7219	MONT	+	.4412	U.S.					R SQAR BAR=	.963	DURBIN WAT=	1.696
P184			(8.78)	P18L		(2.33)	ET3M		(2.42)	TIME					AVER % ERR=	1.03	ESTIMATION=	OLS
NEBR	18.14	+	.9442	NEBR	+	.4509	NEBR	+	.9245	U.S.					R SQAR BAR=	.964	DURBIN WAT=	1.065
P184			(12.81)	P18L		(2.31)	ET3M		(2.84)	TIME					AVER % ERR=	1.02	ESTIMATION=	OLS
NEVA	-93.66	+	.9360	NEVA	+	75.8856	NEVA	+	.6591	NEVA	+	1.0656	U.S.		R SQAR BAR=	.996	DURBIN WAT=	2.062
P184			(12.03)	P18L		(3.13)	Y4RM		(3.02)	ET3M		(1.77)	TIME		AVER % ERR=	1.36	ESTIMATION=	OLS
NHAM	-64.84	+	1.0893	NHAM	+	.5234	NHAM								R SQAR BAR=	.996	DURBIN WAT=	2.191
P184			(69.66)	P18L		(1.56)	Y4RL								AVER % ERR=	.91	ESTIMATION=	OLS
NJER	-110.14	+	1.0580	NJER	+	.0184	NJER	+	.1776	NJER					R SQAR BAR=	.994	DURBIN WAT=	2.129
P184			(19.40)	P18L		(.01)	YT4R		(1.33)	ET3					AVER % ERR=	.47	ESTIMATION=	OLS
NMEX	-16.74	+	.7827	NMEX	+	.8191	NMEX	+	.9877	NMEX	+	1.8727	U.S.		R SQAR BAR=	.985	DURBIN WAT=	1.883
P184			(9.62)	P18L		(1.92)	Y4RL		(5.71)	ET3M		(3.75)	TIME		AVER % ERR=	1.05	ESTIMATION=	OLS
NYOR	389.01	+	.9157	NYOR	+	.8423	NYOR	+	13.6535	U.S.					R SQAR BAR=	.946	DURBIN WAT=	2.599
P184			(9.73)	P18L		(2.22)	ET3M		(3.28)	TIME					AVER % ERR=	.73	ESTIMATION=	OLS
NCAR	-268.42	+	.9157	NCAR	+	568.7480	NCAR								R SQAR BAR=	.991	DURBIN WAT=	1.542
P184			(12.26)	P18L		(2.39)	Y4RM								AVER % ERR=	.65	ESTIMATION=	OLS

ESTIMATION FOR: P184 POPULATION , AGE GROUP : 18 TO 44 (29) LAG DEPENDENT VARIABLE: P18L

NDAK	7.21	+	.8880	NDAK	+	.2064	NDAK	+	.1773	NDAK					R SQAR BAR=	.869	DURBIN WAT=	1.492
P184			(7.01)	P18L		(2.55)	Y4RL		(1.01)	ET3M					AVER % ERR=	1.35	ESTIMATION=	OLS
OHIO	-1339.52	+	.9871	OHIO	+	12.3231	OHIO	+	.1377	OHIO	+	8.6655	U.S.		R SQAR BAR=	.987	DURBIN WAT=	1.554
P184			(13.76)	P18L		(2.08)	Y4RL		(.66)	ET3M		(2.06)	TIME		AVER % ERR=	.58	ESTIMATION=	OLS
OKLA	-156.24	+	.9538	OKLA	+	2.1590	OKLA	+	1.4176	U.S.					R SQAR BAR=	.981	DURBIN WAT=	1.820
P184			(9.96)	P18L		(1.24)	Y4RL		(1.32)	TIME					AVER % ERR=	.91	ESTIMATION=	OLS
OREG	-176.11	+	1.0130	OREG	+	1.5590	OREG	+	.7535	OREG	+	1.6829	U.S.		R SQAR BAR=	.997	DURBIN WAT=	1.446
P184			(27.49)	P18L		(1.65)	Y4RL		(3.58)	ET3M		(2.53)	TIME		AVER % ERR=	.61	ESTIMATION=	OLS
PENN	-640.59	+	1.0188	PENN	+	471.7818	PENN	+	.1223	PENN	+	6.3226	U.S.		R SQAR BAR=	.936	DURBIN WAT=	2.033
P184			(11.69)	P18L		(.46)	Y4RM		(.24)	ET3M		(3.15)	TIME		AVER % ERR=	.60	ESTIMATION=	OLS
RHIS	-126.36	+	1.0262	RHIS	+	1.1937	RHIS	+	.4365	RHIS					R SQAR BAR=	.790	DURBIN WAT=	1.453
P184			(7.74)	P18L		(1.57)	Y4RL		(.95)	ET3M					AVER % ERR=	1.74	ESTIMATION=	OLS
SCAR	-101.54	+	1.0683	SCAR	+	.7209	SCAR								R SQAR BAR=	.985	DURBIN WAT=	1.455
P184			(11.77)	P18L		(.56)	YT4R								AVER % ERR=	.97	ESTIMATION=	OLS
SDAK	-11.58	+	.9519	SDAK	+	28.2495	SDAK	+	.3741	SDAK					R SQAR BAR=	.860	DURBIN WAT=	1.648
P184			(10.54)	P18L		(2.05)	Y4RM		(2.15)	ET3M					AVER % ERR=	1.31	ESTIMATION=	OLS
TENN	-253.81	+	.9067	TENN	+	5.1330	TENN	+	.2130	TENN					R SQAR BAR=	.993	DURBIN WAT=	1.701
P184			(9.89)	P18L		(2.31)	Y4RL		(1.52)	ET3M					AVER % ERR=	.58	ESTIMATION=	OLS
TEXA	-1090.14	+	.8718	TEXA	+	1613.2000	TEXA	+	11.3759	U.S.					R SQAR BAR=	.996	DURBIN WAT=	2.535
P184			(9.82)	P18L		(2.15)	Y4RM		(2.67)	TIME					AVER % ERR=	.58	ESTIMATION=	OLS
UTAH	11.86	+	.9426	UTAH	+	.3869	UTAH	+	.9690	U.S.					R SQAR BAR=	.993	DURBIN WAT=	1.862
P184			(10.74)	P18L		(1.78)	ET3M		(1.37)	TIME					AVER % ERR=	1.02	ESTIMATION=	OLS
VERM	-26.02	+	.9195	VERM	+	.3680	VERM	+	.2550	VERM	+	.5420	U.S.		R SQAR BAR=	.992	DURBIN WAT=	2.743
P184			(17.81)	P18L		(1.17)	YT4R		(1.16)	ET3M		(2.75)	TIME		AVER % ERR=	.91	ESTIMATION=	OLS
VIRG	-94.55	+	.7885	VIRG	+	4.5425	VIRG	+	.7404	VIRG	+	3.7651	U.S.		R SQAR BAR=	.989	DURBIN WAT=	1.190
P184			(6.43)	P18L		(1.58)	Y4RL		(2.05)	ET3M		(1.33)	TIME		AVER % ERR=	.78	ESTIMATION=	OLS
WASH	-361.29	+	1.0308	WASH	+	2.9209	WASH	+	.4976	WASH	+	2.2348	U.S.		R SQAR BAR=	.993	DURBIN WAT=	1.545
P184			(19.10)	P18L		(1.81)	Y4RL		(3.31)	ET3M		(1.84)	TIME		AVER % ERR=	.97	ESTIMATION=	OLS
WVIR	-104.70	+	.9245	WVIR	+	200.5225	WVIR	+	.5279	WVIR					R SQAR BAR=	.937	DURBIN WAT=	2.893
P184			(17.54)	P18L		(3.01)	Y4RM		(2.05)	ET3M					AVER % ERR=	.90	ESTIMATION=	OLS
WISC	-45.64	+	1.0275	WISC	+	.0622	WISC	+	1.7764	U.S.					R SQAR BAR=	.992	DURBIN WAT=	1.009
P184			(22.35)	P18L		(.39)	ET3M		(1.96)	TIME					AVER % ERR=	.74	ESTIMATION=	OLS
WYOM	10.47	+	.8905	WYOM	+	.7651	WYOM	+	.2411	U.S.					R SQAR BAR=	.940	DURBIN WAT=	1.760
P184			(8.97)	P18L		(3.17)	ET3M		(2.08)	TIME					AVER % ERR=	1.80	ESTIMATION=	OLS

ESTIMATION FOR: P454 POPULATION . AGE GROUP : 45 TO 64 (30) LAG DEPENDENT VARIABLE: P45L

THE ESTIMATION PERIOD IS FROM 1953 TO 1976 EXCEPT FOR 1958 TO 1976 IN STATES: ALAS HAWA

ALAB	-25.67	+	.8872	ALAB	+	1.4571	ALAB	+	.0424	ALAB				R SQAR BAR=	.993	DURBIN WAT=	1.398
P454			(15.43)	P45L		(1.79)	Y4RL		(.75)	ET3				AVER % ERR=	.52	ESTIMATION=	OLS
ALAS	-.69	+	.6957	ALAS	+	.0451	ALAS	+	.4585	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.323
P454			(2.79)	P45L		(1.90)	Y4RL		(1.37)	TIME				AVER % ERR=	1.72	ESTIMATION=	OLS
ARIS	15.26	+	.8265	ARIZ	+	.3291	ARIZ	+	2.4098	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.575
P454			(8.21)	P45L		(2.50)	ET3M		(1.87)	TIME				AVER % ERR=	1.67	ESTIMATION=	OLS
ARKA	36.19	+	.7005	ARKA	+	1.1395	ARKA	+	.3265	ARKA				R SQAR BAR=	.939	DURBIN WAT=	1.465
P454			(4.24)	P45L		(1.83)	Y4RL		(1.50)	ET3M				AVER % ERR=	1.11	ESTIMATION=	OLS
CALF	-752.61	+	1.0261	CALF	+	6.2846	CALF	+	.0960	CALF				R SQAR BAR=	1.000	DURBIN WAT=	2.562
P454			(77.16)	P45L		(3.21)	Y4RL		(1.57)	ET3M				AVER % ERR=	.26	ESTIMATION=	OLS
COLO	119.84	+	.4887	COLO	+	.2266	COLO	+	4.4567	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.448
P454			(3.19)	P45L		(2.88)	ET3M		(3.34)	TIME				AVER % ERR=	.60	ESTIMATION=	OLS
CONN	-159.16	+	1.0291	CONN	+	1.2235	CONN	+	.1218	CONN				R SQAR BAR=	.994	DURBIN WAT=	1.159
P454			(28.13)	P45L		(1.97)	Y4RL		(1.43)	ET3M				AVER % ERR=	.64	ESTIMATION=	OLS
DELA	18.81	+	.7202	DELA	+	.1574	DELA	+	.5781	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.817
P454			(3.64)	P45L		(1.96)	ET3M		(1.34)	TIME				AVER % ERR=	.70	ESTIMATION=	OLS
D.C.	-107.48	+	1.0093	D.C.	+	.8265	D.C.	+	.2221	D.C.				R SQAR BAR=	.934	DURBIN WAT=	1.757
P454			(16.18)	P45L		(1.78)	Y4RL		(2.10)	ET3M				AVER % ERR=	1.50	ESTIMATION=	OLS
FLOR	-786.01	+	.6016	FLOR	+	1174.0400	FLOR	+	14.2877	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.559
P454			(5.59)	P45L		(4.12)	Y4RM		(2.81)	TIME				AVER % ERR=	1.82	ESTIMATION=	OLS
GEOR	-18.65	+	.9308	GEOR	+	1.0512	GEOR	+	.1138	GEOR				R SQAR BAR=	.996	DURBIN WAT=	1.069
P454			(18.20)	P45L		(1.03)	Y4RL		(1.05)	ET3M				AVER % ERR=	.53	ESTIMATION=	OLS
HAWA	-27.29	+	.7592	HAWA	+	36.3257	HAWA	+	1.1996	U.S.				R SQAR BAR=	.994	DURBIN WAT=	2.914
P454			(6.08)	P45L		(1.83)	Y4RM		(2.14)	TIME				AVER % ERR=	1.12	ESTIMATION=	OLS
IDAH	33.69	+	.5530	IDAH	+	14.6000	IDAH	+	.2314	IDAH	+	.9264	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.697
P454			(5.37)	P45L		(1.83)	Y4RM		(5.05)	ET3M		(4.38)	TIME	AVER % ERR=	.31	ESTIMATION=	OLS
ILLI	228.15	+	.9096	ILLI	+	.4880	ILLI							R SQAR BAR=	.962	DURBIN WAT=	1.705
P454			(22.94)	P45L		(2.49)	ET3M							AVER % ERR=	.61	ESTIMATION=	OLS
INDI	-223.29	+	.9955	INDI	+	2.3915	INDI	+	.0265	INDI				R SQAR BAR=	.994	DURBIN WAT=	1.582
P454			(46.78)	P45L		(3.96)	Y4RL		(.41)	ET3M				AVER % ERR=	.43	ESTIMATION=	OLS
IOWA	50.41	+	.8729	IOWA	+	.2435	IOWA	+	.0412	IOWA				R SQAR BAR=	.889	DURBIN WAT=	1.104
P454			(10.71)	P45L		(1.36)	Y4RL		(.75)	ET3				AVER % ERR=	.48	ESTIMATION=	OLS
KANS	48.94	+	.8956	KANS	+	.0805	KANS							R SQAR BAR=	.945	DURBIN WAT=	1.215
P454			(18.51)	P45L		(1.22)	ET3M							AVER % ERR=	.55	ESTIMATION=	OLS

ESTIMATION FOR: P454 POPULATION , AGE GROUP : 45 TO 64 (30) LAG DEPENDENT VARIABLE: P45L

KENT	-5.03	+	.9717	KENT	+	.3661	KENT						R SQAR BAR=	.990	DURBIN WAT= 1.217
P454			(13.39)	P45L		(.40)	Y4RL						AVER % ERR=	.52	ESTIMATION= OLS
LOUS	-31.52	+	.9232	LOUS	+	1.1060	LOUS	+	.0382	LOUS			R SQAR BAR=	.996	DURBIN WAT= 1.232
P454			(43.38)	P45L		(1.89)	Y4RL		(1.00)	ET3			AVER % ERR=	.39	ESTIMATION= OLS
MAIN	19.46	+	.8219	MAIN	+	.1588	MAIN	+	.1115	MAIN	+	.2635 U.S.	R SQAR BAR=	.972	DURBIN WAT= 1.951
P454			(6.35)	P45L		(.72)	Y4RL		(1.84)	ET3		(1.81) TIME	AVER % ERR=	.49	ESTIMATION= OLS
MARY	29.03	+	.9748	MARY	+	.3611	MARY						R SQAR BAR=	.997	DURBIN WAT= 1.832
P454			(88.09)	P45L		(2.54)	ET3M						AVER % ERR=	.60	ESTIMATION= OLS
MASS	58.59	+	.9203	MASS	+	38.5900	MASS						R SQAR BAR=	.951	DURBIN WAT= 1.558
P454			(18.39)	P45L		(.33)	Y4RM						AVER % ERR=	.70	ESTIMATION= OLS
MICH	-89.24	+	.9570	MICH	+	1.6481	MICH	+	.0883	MICH			R SQAR BAR=	.992	DURBIN WAT= 1.119
P454			(44.62)	P45L		(2.01)	Y4RL		(1.54)	ET3M			AVER % ERR=	.56	ESTIMATION= OLS
MINN	120.28	+	.8232	MINN	+	.4824	U.S.						R SQAR BAR=	.980	DURBIN WAT= 1.558
P454			(6.42)	P45L		(.84)	TIME						AVER % ERR=	.42	ESTIMATION= OLS
MISS	67.00	+	.7451	MISS	+	.5900	MISS	+	.1206	MISS			R SQAR BAR=	.911	DURBIN WAT= 1.223
P454			(5.95)	P45L		(1.67)	Y4RL		(1.11)	ET3M			AVER % ERR=	.88	ESTIMATION= OLS
MISR	-40.80	+	.8551	MISR	+	1.9026	MISR	+	.0734	MISR			R SQAR BAR=	.946	DURBIN WAT= 1.263
P454			(19.58)	P45L		(1.90)	Y4RL		(1.19)	ET3			AVER % ERR=	.44	ESTIMATION= OLS
MONT	43.44	+	.6222	MONT	+	.1351	MONT	+	.5660	U.S.			R SQAR BAR=	.990	DURBIN WAT= 1.925
P454			(3.74)	P45L		(1.85)	ET3M		(2.27)	TIME			AVER % ERR=	.56	ESTIMATION= OLS
NEBR	53.32	+	.7804	NEBR	+	.1271	NEBR	+	.0217	NEBR			R SQAR BAR=	.865	DURBIN WAT= 1.106
P454			(9.12)	P45L		(1.29)	Y4RL		(.51)	ET3M			AVER % ERR=	.43	ESTIMATION= OLS
NEVA	-24.25	+	.7092	NEVA	+	.2274	NEVA	+	.1177	NEVA	+	1.4381 U.S.	R SQAR BAR=	.996	DURBIN WAT= 1.713
P454			(5.48)	P45L		(1.93)	Y4RL		(1.71)	ET3		(2.46) TIME	AVER % ERR=	1.59	ESTIMATION= OLS
NHAM	-16.16	+	1.0198	NHAM	+	.1610	NHAM						R SQAR BAR=	.993	DURBIN WAT= 1.373
P454			(56.50)	P45L		(1.16)	Y4RL						AVER % ERR=	.58	ESTIMATION= OLS
NJER	-335.43	+	.9059	NJER	+	365.5749	NJER	+	.2392	NJER	+	3.3709 U.S.	R SQAR BAR=	.996	DURBIN WAT= 1.070
P454			(6.77)	P45L		(1.16)	Y4RM		(1.51)	ET3M		(.94) TIME	AVER % ERR=	.48	ESTIMATION= OLS
NMEX	15.87	+	.5079	NMEX	+	38.8490	NMEX	+	.0678	NMEX	+	2.1823 U.S.	R SQAR BAR=	.999	DURBIN WAT= 2.300
P454			(3.20)	P45L		(3.02)	Y4RM		(1.90)	ET3M		(3.18) TIME	AVER % ERR=	.42	ESTIMATION= OLS
NYOR	501.61	+	.7441	NYOR	+	4.2464	NYOR	+	.0269	NYOR	+	2.1374 U.S.	R SQAR BAR=	.876	DURBIN WAT= 1.548
P454			(4.57)	P45L		(.84)	Y4RL		(.20)	ET3		(.50) TIME	AVER % ERR=	.59	ESTIMATION= OLS
NCAR	-22.41	+	.9527	NCAR	+	1.0040	NCAR	+	.2688	NCAR			R SQAR BAR=	.997	DURBIN WAT= 1.128
P454			(23.47)	P45L		(.98)	Y4RL		(2.26)	ET3M			AVER % ERR=	.50	ESTIMATION= OLS

ESTIMATION FOR: P454 POPULATION . AGE GROUP : 45 TO 64 (30) LAG DEPENDENT VARIABLE: P45L

NDAK	9.92	+	.9233	NDAK	+	.0455	NDAK							R SQAR BAR=	.928	DURBIN WAT=	2.381
P454			(16.78)	P45L		(1.41)	ET3							AVER % ERR=	.58	ESTIMATION=	OLS
OHIO	-671.83	+	.7868	OHIO	+	9.6842	OHIO	+	.1145	OHIO	+	7.1846	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.286
P454			(6.29)	P45L		(3.14)	Y4RL		(1.64)	ET3		(2.13)	TIME	AVER % ERR=	.62	ESTIMATION=	OLS
OKLA	-13.22	+	.9613	OKLA	+	.4381	OKLA	+	.0372	OKLA				R SQAR BAR=	.977	DURBIN WAT=	1.494
P454			(19.82)	P45L		(.64)	Y4RL		(.52)	ET3				AVER % ERR=	.61	ESTIMATION=	OLS
OREG	60.80	+	.8179	OREG	+	.0818	OREG	+	1.1837	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.329
P454			(6.34)	P45L		(.90)	ET3M		(1.37)	TIME				AVER % ERR=	.45	ESTIMATION=	OLS
PENN	240.55	+	.9179	PENN	+	.1883	PENN							R SQAR BAR=	.992	DURBIN WAT=	1.281
P454			(46.85)	P45L		(1.36)	ET3M							AVER % ERR=	.43	ESTIMATION=	OLS
RHIS	-61.42	+	.9875	RHIS	+	.6495	RHIS	+	.0867	RHIS				R SQAR BAR=	.978	DURBIN WAT=	1.028
P454			(30.25)	P45L		(3.28)	Y4RL		(.95)	ET3M				AVER % ERR=	.67	ESTIMATION=	OLS
SCAR	104.04	+	.6369	SCAR	+	.1559	SCAR	+	3.5826	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.317
P454			(4.68)	P45L		(2.46)	ET3M		(2.68)	TIME				AVER % ERR=	.76	ESTIMATION=	OLS
SDAK	26.98	+	.7701	SDAK	+	.0313	SDAK	+	.0332	SDAK	+	.0893	U.S.	R SQAR BAR=	.941	DURBIN WAT=	1.993
P454			(5.18)	P45L		(1.19)	YT4R		(1.70)	ET3		(1.34)	TIME	AVER % ERR=	.41	ESTIMATION=	OLS
TENN	207.79	+	.6584	TENN	+	.0869	TENN	+	3.3905	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.368
P454			(3.57)	P45L		(1.48)	ET3M		(1.69)	TIME				AVER % ERR=	.36	ESTIMATION=	OLS
TEXA	-79.79	+	.9807	TEXA	+	1.6531	TEXA	+	.0821	TEXA				R SQAR BAR=	.997	DURBIN WAT=	1.408
P454			(61.86)	P45L		(1.13)	YT4R		(.82)	ET3M				AVER % ERR=	.47	ESTIMATION=	OLS
UTAH	63.07	+	.2851	UTAH	+	.1274	UTAH	+	.0259	UTAH	+	2.6117	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.633
P454			(1.02)	P45L		(1.36)	Y4RL		(1.32)	ET3		(2.52)	TIME	AVER % ERR=	.35	ESTIMATION=	OLS
VERM	-10.89	+	.8589	VERM	+	27.2101	VERM	+	.1339	VERM				R SQAR BAR=	.972	DURBIN WAT=	2.209
P454			(16.43)	P45L		(3.23)	Y4RM		(1.92)	ET3M				AVER % ERR=	.57	ESTIMATION=	OLS
VIRG	27.10	+	.9857	VIRG	+	.1408	VIRG							R SQAR BAR=	.998	DURBIN WAT=	1.443
P454			(86.32)	P45L		(1.65)	ET3M							AVER % ERR=	.46	ESTIMATION=	OLS
WASH	-183.38	+	1.0143	WASH	+	1.7086	WASH	+	.0883	WASH				R SQAR BAR=	.995	DURBIN WAT=	1.356
P454			(48.51)	P45L		(3.14)	Y4RL		(1.77)	ET3M				AVER % ERR=	.60	ESTIMATION=	OLS
WVIR	6.37	+	.9178	WVIR	+	.3595	WVIR	+	.0590	WVIR				R SQAR BAR=	.977	DURBIN WAT=	1.233
P454			(15.75)	P45L		(1.27)	Y4RL		(1.10)	ET3				AVER % ERR=	.47	ESTIMATION=	OLS
WISC	-58.99	+	.9617	WISC	+	1.0225	WISC							R SQAR BAR=	.990	DURBIN WAT=	1.437
P454			(29.76)	P45L		(1.00)	Y4RL							AVER % ERR=	.42	ESTIMATION=	OLS
WYOM	-8.30	+	.8318	WYOM	+	16.9496	WYOM	+	.2439	U.S.				R SQAR BAR=	.971	DURBIN WAT=	1.516
P454			(3.89)	P45L		(2.33)	Y4RM		(1.31)	TIME				AVER % ERR=	1.17	ESTIMATION=	OLS

ESTIMATION FOR: P65+ POPULATION , AGE GROUP : 65 & OVER (31) LAG DEPENDENT VARIABLE: P65L

THE ESTIMATION PERIOD IS FROM 1953 TO 1976 EXCEPT FOR 1958 TO 1976 IN STATES: ALAS HAWA

ALAB	-12.93	+	.0361	ALAB	+	.9921	ALAB				R SQAR BAR=	.996	DURBIN WAT=	1.425
P65+			(.63)	P45L		(14.45)	P65L				AVER % ERR=	.97	ESTIMATION=	OLS
ALAS	.00	+	.0197	ALAS	+	.7206	ALAS	+	.0648	U.S.	R SQAR BAR=	.780	DURBIN WAT=	2.318
P65+			(.37)	P45L		(5.54)	P65L		(.85)	TIME	AVER % ERR=	6.34	ESTIMATION=	OLS
ARIS	.00	+	.0130	ARIZ	+	1.0176	ARIZ	+	.1404	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.938
P65+			(.69)	P45L		(15.17)	P65L		(.33)	TIME	AVER % ERR=	1.53	ESTIMATION=	OLS
ARKA	22.04	+	.0264	ARKA	+	.7842	ARKA	+	1.1256	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.439
P65+			(.19)	P45L		(4.08)	P65L		(1.56)	TIME	AVER % ERR=	1.37	ESTIMATION=	OLS
CALF	.00	+	.0513	CALF	+	.9194	CALF	+	-.4353	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.490
P65+			(.94)	P45L		(6.37)	P65L		(.20)	TIME	AVER % ERR=	.81	ESTIMATION=	OLS
COLO	.00	+	.0408	COLO	+	.9363	COLO				R SQAR BAR=	.990	DURBIN WAT=	1.480
P65+			(.76)	P45L		(8.10)	P65L				AVER % ERR=	1.11	ESTIMATION=	OLS
CONN	.00	+	1.0297	CONN	+	-.1269	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.120
P65+			(99.99)	P65L		(1.37)	TIME				AVER % ERR=	.63	ESTIMATION=	OLS
DELA	.00	+	.0767	DELA	+	.8388	DELA				R SQAR BAR=	.989	DURBIN WAT=	1.770
P65+			(1.65)	P45L		(7.39)	P65L				AVER % ERR=	1.48	ESTIMATION=	OLS
D.C.	14.52	+	.0301	D.C.	+	.6536	D.C.	+	.2490	U.S.	R SQAR BAR=	.731	DURBIN WAT=	1.647
P65+			(.43)	P45L		(3.92)	P65L		(1.41)	TIME	AVER % ERR=	2.81	ESTIMATION=	OLS
FLOR	.00	+	.0554	FLOR	+	.9191	FLOR	+	2.6942	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.221
P65+			(2.11)	P45L		(10.86)	P65L		(.82)	TIME	AVER % ERR=	1.73	ESTIMATION=	OLS
GEOR	-13.68	+	.0332	GEOR	+	.9904	GEOR				R SQAR BAR=	.996	DURBIN WAT=	1.478
P65+			(.72)	P45L		(11.99)	P65L				AVER % ERR=	.94	ESTIMATION=	OLS
HAWA	-1.34	+	.0241	HAWA	+	.9353	HAWA	+	.1446	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.115
P65+			(.22)	P45L		(4.92)	P65L		(.59)	TIME	AVER % ERR=	1.32	ESTIMATION=	OLS
IDAH	3.23	+	.9459	IDAH	+	.0984	U.S.				R SQAR BAR=	.986	DURBIN WAT=	1.507
P65+			(7.95)	P65L		(.67)	TIME				AVER % ERR=	1.13	ESTIMATION=	OLS
ILLI	.00	+	.0305	ILLI	+	.9465	ILLI				R SQAR BAR=	.992	DURBIN WAT=	1.314
P65+			(2.11)	P45L		(29.43)	P65L				AVER % ERR=	.63	ESTIMATION=	OLS
INDI	-1.35	+	.0283	INDI	+	.9584	INDI				R SQAR BAR=	.996	DURBIN WAT=	1.883
P65+			(.61)	P45L		(12.48)	P65L				AVER % ERR=	.42	ESTIMATION=	C-O
IOWA	.00	+	.0447	IOWA	+	.9336	IOWA				R SQAR BAR=	.974	DURBIN WAT=	2.242
P65+			(1.95)	P45L		(23.70)	P65L				AVER % ERR=	.80	ESTIMATION=	OLS
KANS	.00	+	.0210	KANS	+	.9767	KANS				R SQAR BAR=	.988	DURBIN WAT=	1.652
P65+			(1.04)	P45L		(26.86)	P65L				AVER % ERR=	.83	ESTIMATION=	OLS

ESTIMATION FOR: P65+ POPULATION , AGE GROUP : 65 & OVER (31) LAG DEPENDENT VARIABLE: P65L

KENT	.00	+	.0266	KENT	+	.9653	KENT				R SQAR BAR=	.986	DURBIN WAT=	1.645
P65+			(.94)	P45L		(17.19)	P65L				AVER % ERR=	1.08	ESTIMATION=	OLS
LOUS	.00	+	.0729	LOUS	+	.7974	LOUS	+	.9480	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.501
P65+			(2.04)	P45L		(7.25)	P65L		(2.06)	TIME	AVER % ERR=	1.03	ESTIMATION=	OLS
MAIN	.00	+	.0530	MAIN	+	.9169	MAIN				R SQAR BAR=	.955	DURBIN WAT=	1.916
P65+			(1.23)	P45L		(11.78)	P65L				AVER % ERR=	1.28	ESTIMATION=	OLS
MARY	.00	+	.0424	MARY	+	.9173	MARY				R SQAR BAR=	.996	DURBIN WAT=	1.581
P65+			(1.62)	P45L		(13.26)	P65L				AVER % ERR=	.94	ESTIMATION=	OLS
MASS	.00	+	.0421	MASS	+	.9311	MASS				R SQAR BAR=	.981	DURBIN WAT=	1.614
P65+			(1.59)	P45L		(17.88)	P65L				AVER % ERR=	1.05	ESTIMATION=	OLS
MICH	.00	+	.0331	MICH	+	.9411	MICH				R SQAR BAR=	.994	DURBIN WAT=	1.278
P65+			(1.98)	P45L		(23.61)	P65L				AVER % ERR=	.71	ESTIMATION=	OLS
MINN	.00	+	.0336	MINN	+	.9545	MINN				R SQAR BAR=	.997	DURBIN WAT=	1.312
P65+			(3.61)	P45L		(54.88)	P65L				AVER % ERR=	.51	ESTIMATION=	OLS
MISS	3.74	+	.1118	MISS	+	.6735	MISS	+	1.2857	U.S.	R SQAR BAR=	.978	DURBIN WAT=	1.537
P65+			(.68)	P45L		(3.81)	P65L		(1.96)	TIME	AVER % ERR=	1.81	ESTIMATION=	OLS
MISR	.00	+	.0183	MISR	+	.9813	MISR				R SQAR BAR=	.989	DURBIN WAT=	1.158
P65+			(1.15)	P45L		(33.44)	P65L				AVER % ERR=	.75	ESTIMATION=	OLS
MONT	.00	+	.0689	MONT	+	.8774	MONT	+	-.0188	U.S.	R SQAR BAR=	.977	DURBIN WAT=	.748
P65+			(1.27)	P45L		(8.05)	P65L		(.68)	TIME	AVER % ERR=	.89	ESTIMATION=	OLS
NEBR	.00	+	.0615	NEBR	+	.8917	NEBR	+	.1687	U.S.	R SQAR BAR=	.986	DURBIN WAT=	1.263
P65+			(1.26)	P45L		(8.28)	P65L		(.67)	TIME	AVER % ERR=	.71	ESTIMATION=	OLS
NEVA	-.62	+	.0310	NEVA	+	.9897	NEVA				R SQAR BAR=	.996	DURBIN WAT=	1.969
P65+			(.89)	P45L		(10.16)	P65L				AVER % ERR=	1.92	ESTIMATION=	OLS
NHAM	-2.76	+	.0596	NHAM	+	.9444	NHAM				R SQAR BAR=	.993	DURBIN WAT=	1.238
P65+			(1.15)	P45L		(11.60)	P65L				AVER % ERR=	.65	ESTIMATION=	OLS
NJER	.00	+	.0465	NJER	+	.9030	NJER	+	.3812	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.352
P65+			(1.19)	P45L		(8.09)	P65L		(.51)	TIME	AVER % ERR=	.80	ESTIMATION=	OLS
NMEX			E X O G E N O U S											
NYOR	.00	+	.0536	NYOR	+	.8779	NYOR	+	1.9772	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.562
P65+			(1.20)	P45L		(6.78)	P65L		(.61)	TIME	AVER % ERR=	.78	ESTIMATION=	OLS
NCAR	-12.03	+	.0280	NCAR	+	.9986	NCAR	+	-.0162	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.451
P65+			(.23)	P45L		(9.69)	P65L		(.01)	TIME	AVER % ERR=	.88	ESTIMATION=	OLS

ESTIMATION FOR: P65+ POPULATION , AGE GROUP : 65 & OVER (31) LAG DEPENDENT VARIABLE: P65L

NDAK	19.81	+	.0106	NDAK	+	.5360	NDAK	+	.5121	U.S.	R SQAR BAR=	.966	DURBIN WAT=	1.568
P65+			(.05)	P45L		(2.93)	P65L		(2.27)	TIME	AVER % ERR=	1.45	ESTIMATION=	OLS
OHIO	.00	+	.0379	OHIO	+	.9318	OHIO				R SQAR BAR=	.987	DURBIN WAT=	1.651
P65+			(1.19)	P45L		(13.33)	P65L				AVER % ERR=	.83	ESTIMATION=	OLS
OKLA	.00	+	.0208	OKLA	+	.9825	OKLA				R SQAR BAR=	.986	DURBIN WAT=	1.927
P65+			(.90)	P45L		(22.52)	P65L				AVER % ERR=	1.27	ESTIMATION=	OLS
OREG	15.94	+	.0341	OREG	+	.8104	OREG	+	.8232	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.745
P65+			(.31)	P45L		(5.10)	P65L		(.71)	TIME	AVER % ERR=	.93	ESTIMATION=	OLS
PENN	.00	+	.0400	PENN	+	.9210	PENN	+	.5753	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.241
P65+			(.89)	P45L		(8.30)	P65L		(.55)	TIME	AVER % ERR=	.75	ESTIMATION=	OLS
RHIS	-4.09	+	.0572	RHIS	+	.9446	RHIS				R SQAR BAR=	.991	DURBIN WAT=	2.249
P65+			(.94)	P45L		(13.63)	P65L				AVER % ERR=	.86	ESTIMATION=	OLS
SCAR	.00	+	1.0049	SCAR	+	.2653	U.S.				R SQAR BAR=	.996	DURBIN WAT=	.965
P65+			(93.72)	P65L		(2.51)	TIME				AVER % ERR=	.99	ESTIMATION=	OLS
SDAK	.00	+	.0361	SDAK	+	.9506	SDAK				R SQAR BAR=	.986	DURBIN WAT=	1.841
P65+			(2.22)	P45L		(32.64)	P65L				AVER % ERR=	.90	ESTIMATION=	OLS
TENN	12.02	+	.0616	TENN	+	.7859	TENN	+	1.4392	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.456
P65+			(.34)	P45L		(5.41)	P65L		(.59)	TIME	AVER % ERR=	1.05	ESTIMATION=	OLS
TEXA	.00	+	.0675	TEXA	+	.8120	TEXA	+	3.3988	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.213
P65+			(2.04)	P45L		(7.72)	P65L		(2.11)	TIME	AVER % ERR=	.82	ESTIMATION=	OLS
UTAH	.00	+	.0429	UTAH	+	.9066	UTAH	+	.0946	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.920
P65+			(.83)	P45L		(6.36)	P65L		(.95)	TIME	AVER % ERR=	1.01	ESTIMATION=	OLS
VERM	.00	+	.0351	VERM	+	.9489	VERM				R SQAR BAR=	.949	DURBIN WAT=	1.522
P65+			(.59)	P45L		(8.90)	P65L				AVER % ERR=	1.33	ESTIMATION=	OLS
VIRG	-6.73	+	.0286	VIRG	+	.9780	VIRG				R SQAR BAR=	.997	DURBIN WAT=	1.269
P65+			(.59)	P45L		(9.49)	P65L				AVER % ERR=	.81	ESTIMATION=	OLS
WASH	-7.13	+	.0375	WASH	+	.9681	WASH				R SQAR BAR=	.996	DURBIN WAT=	1.783
P65+			(.78)	P45L		(11.56)	P65L				AVER % ERR=	.63	ESTIMATION=	C-O
WVIR	.00	+	.0197	WVIR	+	.9749	WVIR				R SQAR BAR=	.984	DURBIN WAT=	1.676
P65+			(.97)	P45L		(22.62)	P65L				AVER % ERR=	1.16	ESTIMATION=	OLS
WISC	.00	+	.0327	WISC	+	.9534	WISC	+	.0445	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.133
P65+			(.64)	P45L		(7.78)	P65L		(.07)	TIME	AVER % ERR=	.59	ESTIMATION=	OLS
WYOM	.00	+	.0667	WYOM	+	.8637	WYOM				R SQAR BAR=	.980	DURBIN WAT=	2.702
P65+			(2.37)	P45L		(13.09)	P65L				AVER % ERR=	1.68	ESTIMATION=	OLS

ESTIMATION FOR: RSF RETAIL SALES, FOOD STORES (32)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1957 TO 1976 IN STATES: ALAS HAWA

ALAB	-35.37	+	.2353	ALAB	+	6.6634	ALAB	+	-1.9792	U.S.				R SQAR BAR=	.991	DURBIN WAT=	1.114
RSF			(2.49)	PT8		(1.74)	YT1		(.56)	DCT1				AVER % ERR=	3.38	ESTIMATION=	OLS
ALAS	-102.32	+	.8992	ALAS	+	-3.3392	U.S.							R SQAR BAR=	.978	DURBIN WAT=	1.673
RSF			(14.49)	PT8		(2.17)	TIME							AVER % ERR=	5.95	ESTIMATION=	OLS
ARIS	510.27	+	.2844	ARIZ	+	11.0793	ARIS	+	-4.5546	U.S.	+	-17.5086	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.435
RSF			(5.47)	PT8		(5.93)	YT1		(1.69)	DCT1		(2.82)	TIME	AVER % ERR=	2.26	ESTIMATION=	OLS
ARKA	106.62	+	.1080	ARKA	+	17.2273	ARKA	+	-1.3789	U.S.	+	-9.8288	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.638
RSF			(1.07)	PT8		(4.18)	YT1		(.43)	DCT1		(1.33)	TIME	AVER % ERR=	2.69	ESTIMATION=	OLS
CALF	478.87	+	.1138	CALF	+	13.6655	CALF	+	-115.1990	U.S.				R SQAR BAR=	.998	DURBIN WAT=	2.276
RSF			(2.45)	PT8		(7.02)	YT1		(4.10)	TIME				AVER % ERR=	1.30	ESTIMATION=	OLS
COLO	-14.08	+	.1591	COLO	+	9.9767	COLO	+	-4.7441	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.446
RSF			(2.12)	PT8		(3.42)	YT1		(1.16)	TIME				AVER % ERR=	3.11	ESTIMATION=	OLS
CONN	1026.89	+	.3668	CONN	+	-8.8147	U.S.							R SQAR BAR=	.991	DURBIN WAT=	1.681
RSF			(32.30)	PT8		(5.45)	DCT1							AVER % ERR=	2.35	ESTIMATION=	OLS
DELA	-134.38	+	.8164	DELA	+	-5.4010	U.S.							R SQAR BAR=	.997	DURBIN WAT=	1.600
RSF			(18.97)	PT8		(3.12)	TIME							AVER % ERR=	2.28	ESTIMATION=	C-O
D.C.	206.13	+	.1281	D.C.	+	-.6905	U.S.							R SQAR BAR=	.704	DURBIN WAT=	1.392
RSF			(4.94)	PT8		(1.08)	DCT1							AVER % ERR=	4.91	ESTIMATION=	OLS
FLOR	160.77	+	.1245	FLOR	+	13.2419	FLOR	+	-18.8203	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.273
RSF			(1.92)	PT8		(5.25)	YT1		(1.42)	TIME				AVER % ERR=	2.92	ESTIMATION=	OLS
GEOR	184.12	+	13.1957	GEOR										R SQAR BAR=	.988	DURBIN WAT=	1.446
RSF			(41.19)	YT1										AVER % ERR=	3.33	ESTIMATION=	OLS
HAWA	406.18	+	.3422	HAWA	+	-3.8539	U.S.							R SQAR BAR=	.993	DURBIN WAT=	1.472
RSF			(19.78)	PT8		(4.50)	DCT1							AVER % ERR=	2.48	ESTIMATION=	C-O
IDAH	115.54	+	.4070	IDAH	+	-1.5988	U.S.							R SQAR BAR=	.978	DURBIN WAT=	2.103
RSF			(23.16)	PT8		(2.42)	DCT1							AVER % ERR=	3.88	ESTIMATION=	OLS
ILLI	384.85	+	.1131	ILLI	+	7.6705	ILLI							R SQAR BAR=	.998	DURBIN WAT=	2.113
RSF			(4.34)	PT8		(10.72)	YT1							AVER % ERR=	1.14	ESTIMATION=	OLS
INDI	-56.67	+	.1321	INDI	+	9.4633	INDI							R SQAR BAR=	.995	DURBIN WAT=	2.079
RSF			(3.62)	PT8		(8.14)	YT1							AVER % ERR=	1.83	ESTIMATION=	OLS
IOWA	1367.47	+	10.0739	IOWA	+	-8.6471	U.S.	+	-12.1220	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.792
RSF			(9.54)	YT1		(2.82)	DCT1		(1.47)	TIME				AVER % ERR=	2.00	ESTIMATION=	OLS
KANS	222.06	+	10.8782	KANS	+	-4.5804	U.S.							R SQAR BAR=	.987	DURBIN WAT=	1.963
RSF			(14.09)	YT1		(1.46)	TIME							AVER % ERR=	2.22	ESTIMATION=	OLS

ESTIMATION FOR: RSF RETAIL SALES, FOOD STORES (32)

KENT	-453.21	+	.3508	KENT	+	5.1198	KENT							R SQAR BAR=	.992	DURBIN WAT=	1.826
RSF			(5.77)	PT8		(2.42)	YT1							AVER % ERR=	2.94	ESTIMATION=	OLS
LOUS	-410.23	+	.2338	LOUS	+	11.8264	LOUS							R SQAR BAR=	.990	DURBIN WAT=	1.376
RSF			(2.95)	PT8		(3.95)	YT1							AVER % ERR=	3.78	ESTIMATION=	OLS
MAIN	.84	+	.1600	MAIN	+	10.7968	MAIN							R SQAR BAR=	.983	DURBIN WAT=	1.394
RSF			(2.53)	PT8		(4.52)	YT1							AVER % ERR=	3.07	ESTIMATION=	OLS
MARY	15.21	+	.1225	MARY	+	9.5528	MARY							R SQAR BAR=	.992	DURBIN WAT=	1.105
RSF			(1.87)	PT8		(4.80)	YT1							AVER % ERR=	3.04	ESTIMATION=	OLS
MASS	1524.44	+	.3563	MASS	+	-13.5007	U.S.							R SQAR BAR=	.990	DURBIN WAT=	1.774
RSF			(31.74)	PT8		(4.81)	DCT1							AVER % ERR=	2.23	ESTIMATION=	OLS
MICH	887.93	+	.2776	MICH	+	8.4965	MICH	+	-10.8485	U.S.	+	-41.2711	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.627
RSF			(7.14)	PT8		(7.07)	YT1		(1.41)	DCT1		(2.37)	TIME	AVER % ERR=	1.14	ESTIMATION=	OLS
MINN	274.84	+	.3459	MINN	+	-4.0991	U.S.							R SQAR BAR=	.992	DURBIN WAT=	1.782
RSF			(36.80)	PT8		(2.52)	DCT1							AVER % ERR=	2.45	ESTIMATION=	OLS
MISS	-498.24	+	.3815	MISS	+	7.1011	MISS							R SQAR BAR=	.998	DURBIN WAT=	1.659
RSF			(14.76)	PT8		(7.21)	YT1							AVER % ERR=	2.02	ESTIMATION=	OLS
MISR	143.86	+	.1107	MISR	+	8.3499	MISR							R SQAR BAR=	.996	DURBIN WAT=	1.196
RSF			(4.28)	PT8		(9.98)	YT1							AVER % ERR=	1.67	ESTIMATION=	OLS
MONT	211.83	+	.4948	MONT	+	4.1065	MONT	+	-2.7607	U.S.	+	-5.3892	U.S.	R SQAR BAR=	.994	DURBIN WAT=	2.183
RSF			(8.46)	PT8		(1.65)	YT1		(2.32)	DCT1		(1.92)	TIME	AVER % ERR=	2.08	ESTIMATION=	OLS
NEBR	588.16	+	.0558	NEBR	+	5.5205	NEBR	+	-3.8424	U.S.				R SQAR BAR=	.988	DURBIN WAT=	1.446
RSF			(1.18)	PT8		(3.54)	YT1		(4.64)	DCT1				AVER % ERR=	2.30	ESTIMATION=	OLS
NEVA	220.58	+	13.4910	NEVA	+	-1.6857	U.S.							R SQAR BAR=	.985	DURBIN WAT=	1.833
RSF			(23.58)	YT1		(2.82)	DCT1							AVER % ERR=	3.87	ESTIMATION=	OLS
NHAM	-36.17	+	.6294	NHAM	+	-.8067	U.S.							R SQAR BAR=	.994	DURBIN WAT=	1.461
RSF			(42.75)	PT8		(1.37)	DCT1							AVER % ERR=	2.45	ESTIMATION=	OLS
NJER	2954.31	+	.3586	NJER	+	-26.2557	U.S.							R SQAR BAR=	.987	DURBIN WAT=	1.310
RSF			(25.40)	PT8		(5.59)	DCT1							AVER % ERR=	3.17	ESTIMATION=	OLS
NMEX	-64.25	+	.1490	NMEX	+	21.3715	NMEX	+	-10.3269	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.450
RSF			(1.55)	PT8		(4.40)	YT1		(5.06)	TIME				AVER % ERR=	3.29	ESTIMATION=	OLS
NYOR	316.62	+	.1732	NYOR	+	7.5019	NYOR							R SQAR BAR=	.992	DURBIN WAT=	1.265
RSF			(4.91)	PT8		(6.75)	YT1							AVER % ERR=	1.99	ESTIMATION=	OLS
NCAR	-153.87	+	.1318	NCAR	+	12.2742	NCAR	+	-11.2160	U.S.				R SQAR BAR=	.990	DURBIN WAT=	1.484
RSF			(1.74)	PT8		(3.40)	YT1		(.83)	TIME				AVER % ERR=	3.48	ESTIMATION=	OLS

ESTIMATION FOR: RSF RETAIL SALES, FOOD STORES (32)

NDAK	301.79	+	.2152	NDAK	+	-2.6032	U.S.							R SQAR BAR=	.980	DURBIN WAT=	1.342
RSF			(19.58)	PT8		(9.53)	DCT1							AVER % ERR=	3.35	ESTIMATION=	OLS
OHIO	108.96	+	.1700	OHIO	+	9.4702	OHIO	+	-33.9939	U.S.				R SQAR BAR=	.997	DURBIN WAT=	2.255
RSF			(5.15)	PT8		(6.27)	YT1		(2.68)	TIME				AVER % ERR=	1.30	ESTIMATION=	OLS
OKLA	42.88	+	.1837	OKLA	+	14.0543	OKLA	+	-1.2381	U.S.	+	-16.0023	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.658
RSF			(3.01)	PT8		(6.03)	YT1		(.53)	DCT1		(3.39)	TIME	AVER % ERR=	1.45	ESTIMATION=	OLS
OREG	1318.86	+	.6795	OREG	+	-13.2444	U.S.	+	-33.9021	U.S.				R SQAR BAR=	.991	DURBIN WAT=	2.918
RSF			(13.55)	PT8		(2.72)	DCT1		(3.06)	TIME				AVER % ERR=	2.91	ESTIMATION=	OLS
PENN	1593.43	+	.2630	PENN	+	3.7868	PENN	+	-16.2462	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.187
RSF			(3.12)	PT8		(1.31)	YT1		(1.58)	DCT1				AVER % ERR=	1.96	ESTIMATION=	OLS
RHIS	232.19	+	.1750	RHIS	+	4.1480	RHIS	+	-1.6619	U.S.				R SQAR BAR=	.983	DURBIN WAT=	1.165
RSF			(1.56)	PT8		(1.03)	YT1		(1.28)	DCT1				AVER % ERR=	2.92	ESTIMATION=	OLS
SCAR	-289.22	+	.2614	SCAR	+	8.3238	SCAR							R SQAR BAR=	.994	DURBIN WAT=	1.293
RSF			(5.96)	PT8		(5.33)	YT1							AVER % ERR=	3.00	ESTIMATION=	OLS
SDAK	164.73	+	.2295	SDAK	+	1.5162	SDAK	+	-1.4914	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.394
RSF			(8.78)	PT8		(1.61)	YT1		(4.58)	DCT1				AVER % ERR=	2.54	ESTIMATION=	OLS
TENN	-460.41	+	.3428	TENN	+	9.3767	TENN	+	-21.0227	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.560
RSF			(8.80)	PT8		(5.30)	YT1		(4.84)	TIME				AVER % ERR=	1.61	ESTIMATION=	OLS
TEXA	-1459.39	+	.4746	TEXA	+	5.4978	TEXA	+	-72.1000	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.792
RSF			(7.87)	PT8		(2.28)	YT1		(4.47)	TIME				AVER % ERR=	1.48	ESTIMATION=	OLS
UTAH	-12.38	+	.1322	UTAH	+	15.8944	UTAH	+	-8.0631	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.097
RSF			(1.89)	PT8		(4.90)	YT1		(5.46)	TIME				AVER % ERR=	2.31	ESTIMATION=	OLS
VERM	-29.50	+	.6146	VERM	+	-.5640	U.S.							R SQAR BAR=	.996	DURBIN WAT=	1.396
RSF			(55.41)	PT8		(2.34)	DCT1							AVER % ERR=	1.95	ESTIMATION=	OLS
VIRG	-291.78	+	.2280	VIRG	+	7.4453	VIRG							R SQAR BAR=	.995	DURBIN WAT=	1.660
RSF			(4.87)	PT8		(5.21)	YT1							AVER % ERR=	1.93	ESTIMATION=	OLS
WASH	576.67	+	.3907	WASH	+	6.3189	WASH	+	-6.2220	U.S.	+	-28.6789	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.661
RSF			(2.71)	PT8		(1.24)	YT1		(.88)	DCT1		(1.99)	TIME	AVER % ERR=	3.15	ESTIMATION=	OLS
WVIR	-71.91	+	.1524	WVIR	+	10.6158	WVIR							R SQAR BAR=	.989	DURBIN WAT=	1.274
RSF			(2.87)	PT8		(5.97)	YT1							AVER % ERR=	2.92	ESTIMATION=	OLS
WISC	-186.40	+	.2241	WISC	+	8.0435	WISC	+	-8.3123	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.866
RSF			(3.55)	PT8		(2.90)	YT1		(1.21)	TIME				AVER % ERR=	1.81	ESTIMATION=	OLS
WYOM	114.51	+	.2899	WYOM	+	-.9386	U.S.							R SQAR BAR=	.962	DURBIN WAT=	1.085
RSF			(17.02)	PT8		(3.34)	DCT1							AVER % ERR=	4.87	ESTIMATION=	OLS

ESTIMATION FOR: RSED RETAIL SALES, EATING AND DRINKING PLACES (33)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1957 TO 1976 IN STATES: ALAS HAWA

ALAB	-883.75	+	.1313	INTR	+	.1074	ALAB	+	5.9286	U.S.		R SQAR BAR=	.993	DURBIN WAT=	1.443
RSED			(1.35)	IDPI		(3.53)	PT9		(9.04)	DCT1		AVER % ERR=	4.33	ESTIMATION=	OLS
ALAS			E X O G E N O U S												
ARIS	-305.46	+	.2021	INTR	+	.1057	ARIZ	+	2.4727	U.S.		R SQAR BAR=	.969	DURBIN WAT=	1.183
RSED			(.60)	IDPI		(1.41)	PT9		(1.88)	DCT1		AVER % ERR=	6.47	ESTIMATION=	OLS
ARKA	-416.82	+	4.5225	ARKA	+	.0356	ARKA	+	3.0859	U.S.		R SQAR BAR=	.996	DURBIN WAT=	1.526
RSED			(4.80)	YT1		(1.44)	PT9		(12.17)	DCT1		AVER % ERR=	3.19	ESTIMATION=	OLS
CALF	-4816.02	+	7.8049	CALF	+	38.2753	U.S.					R SQAR BAR=	.988	DURBIN WAT=	1.978
RSED			(30.41)	YT1		(4.53)	DCT1					AVER % ERR=	3.67	ESTIMATION=	OLS
COLO	-1072.85	+	.3873	INTR	+	.1640	COLO	+	7.8560	U.S.		R SQAR BAR=	.989	DURBIN WAT=	1.165
RSED			(1.06)	IDPI		(1.89)	PT9		(5.98)	DCT1		AVER % ERR=	5.58	ESTIMATION=	OLS
CONN	-1285.02	+	.3381	REGL	+	.1594	CONN	+	9.3808	U.S.		R SQAR BAR=	.986	DURBIN WAT=	1.368
RSED			(.74)	DIR		(1.80)	PT9		(5.45)	DCT1		AVER % ERR=	4.60	ESTIMATION=	OLS
DELA	-438.96	+	.0737	REGL	+	8.7052	DELA	+	3.2709	U.S.		R SQAR BAR=	.992	DURBIN WAT=	1.978
RSED			(.56)	DIR		(1.79)	YT1		(6.59)	DCT1		AVER % ERR=	5.19	ESTIMATION=	C-O
D.C.	54.26	+	1.0975	D.C.	+	.0685	U.S.					R SQAR BAR=	.952	DURBIN WAT=	2.243
RSED			(.95)	YT1		(4.17)	TIMX					AVER % ERR=	3.93	ESTIMATION=	OLS
FLOR	-322.72	+	3.1064	INTR	+	.1554	FLOR	+	-.8399	U.S.		R SQAR BAR=	.977	DURBIN WAT=	1.467
RSED			(1.73)	IDPI		(1.43)	PT9		(4.13)	TIMX		AVER % ERR=	7.15	ESTIMATION=	OLS
GEOR	-2729.84	+	5.3243	GEOR	+	.1515	GEOR	+	19.3019	U.S.		R SQAR BAR=	.993	DURBIN WAT=	1.764
RSED			(2.21)	YT1		(2.41)	PT9		(10.57)	DCT1		AVER % ERR=	5.33	ESTIMATION=	OLS
HAWA	-34.85	+	1.4080	INTR	+	4.8161	HAWA	+	-.0578	U.S.		R SQAR BAR=	.997	DURBIN WAT=	1.103
RSED			(3.50)	IDPI		(1.83)	YT1		(6.27)	TIMX		AVER % ERR=	2.76	ESTIMATION=	OLS
IDAH	-199.92	+	.2253	REGL	+	5.8982	IDAH	+	1.5441	U.S.		R SQAR BAR=	.989	DURBIN WAT=	1.903
RSED			(1.07)	DIR		(2.98)	YT1		(4.09)	DCT1		AVER % ERR=	4.77	ESTIMATION=	OLS
ILLI	-2013.64	+	.8930	INTR	+	2.9631	ILLI	+	17.4629	U.S.		R SQAR BAR=	.985	DURBIN WAT=	1.930
RSED			(.76)	IDPI		(.69)	YT1		(4.50)	DCT1		AVER % ERR=	3.62	ESTIMATION=	OLS
INDI	-1438.95	+	7.5622	INDI	+	10.9506	U.S.					R SQAR BAR=	.992	DURBIN WAT=	1.344
RSED			(38.70)	YT1		(7.73)	DCT1					AVER % ERR=	3.63	ESTIMATION=	OLS
IOWA	-483.87	+	2.8213	IOWA	+	.1070	IOWA	+	2.9610	U.S.		R SQAR BAR=	.989	DURBIN WAT=	2.081
RSED			(3.16)	YT1		(3.67)	PT9		(3.87)	DCT1		AVER % ERR=	3.79	ESTIMATION=	OLS
KANS	-184.21	+	4.3426	KANS	+	.0374	KANS	+	.8582	U.S.		R SQAR BAR=	.988	DURBIN WAT=	1.550
RSED			(3.53)	YT1		(.97)	PT9		(1.42)	DCT1		AVER % ERR=	4.52	ESTIMATION=	OLS

ESTIMATION FOR: RSED RETAIL SALES, EATING AND DRINKING PLACES (33)

KENT	-324.64	+	4.8578	KENT	+	2.8051	U.S.					R SQAR BAR=	.983	DURBIN WAT=	1.209
RSED			(26.64)	YT1		(3.68)	DCT1					AVER % ERR=	3.64	ESTIMATION=	OLS
LOUS	-886.94	+	4.8766	LOUS	+	.0587	LOUS	+	6.6648	U.S.		R SQAR BAR=	.992	DURBIN WAT=	1.319
RSED			(2.33)	YT1		(1.19)	PT9		(8.03)	DCT1		AVER % ERR=	3.68	ESTIMATION=	OLS
MAIN	-611.50	+	.8977	REGL	+	.1180	MAIN	+	4.2231	U.S.		R SQAR BAR=	.985	DURBIN WAT=	1.435
RSED			(2.28)	DIR		(1.87)	PT9		(5.95)	DCT1		AVER % ERR=	6.68	ESTIMATION=	OLS
MARY	-1151.42	+	4.8563	MARY	+	.0538	MARY	+	9.2495	U.S.		R SQAR BAR=	.994	DURBIN WAT=	1.721
RSED			(2.27)	YT1		(.84)	PT9		(9.73)	DCT1		AVER % ERR=	3.23	ESTIMATION=	OLS
MASS	-2841.17	+	.9639	REGL	+	.1825	MASS	+	19.8436	U.S.		R SQAR BAR=	.986	DURBIN WAT=	1.480
RSED			(1.03)	DIR		(1.80)	PT9		(4.63)	DCT1		AVER % ERR=	4.42	ESTIMATION=	OLS
MICH	-2864.29	+	5.3308	MICH	+	.0570	MICH	+	21.6324	U.S.		R SQAR BAR=	.988	DURBIN WAT=	1.231
RSED			(3.38)	YT1		(1.20)	PT9		(6.87)	DCT1		AVER % ERR=	4.31	ESTIMATION=	OLS
MINN	-1107.89	+	4.3658	MINN	+	.0907	MINN	+	8.2936	U.S.		R SQAR BAR=	.983	DURBIN WAT=	1.915
RSED			(2.41)	YT1		(1.83)	PT9		(5.50)	DCT1		AVER % ERR=	4.97	ESTIMATION=	OLS
MISS	-539.90	+	.1185	INTR	+	.0825	MISS	+	3.5987	U.S.		R SQAR BAR=	.995	DURBIN WAT=	2.301
RSED			(2.63)	IDPI		(3.97)	PT9		(11.05)	DCT1		AVER % ERR=	3.66	ESTIMATION=	OLS
MISR	-21.09	+	.3335	INTR	+	6.0361	MISR	+	-.2377	U.S.		R SQAR BAR=	.985	DURBIN WAT=	1.444
RSED			(.55)	IDPI		(1.04)	YT1		(4.31)	TIMX		AVER % ERR=	3.80	ESTIMATION=	OLS
MONT	-234.42	+	.0549	INTR	+	7.6066	MONT	+	1.9237	U.S.		R SQAR BAR=	.988	DURBIN WAT=	1.592
RSED			(.84)	IDPI		(3.88)	YT1		(5.55)	DCT1		AVER % ERR=	3.99	ESTIMATION=	OLS
NEBR	-254.80	+	2.6252	NEBR	+	.1355	NEBR	+	1.4477	U.S.		R SQAR BAR=	.989	DURBIN WAT=	2.140
RSED			(2.33)	YT1		(3.94)	PT9		(3.12)	DCT1		AVER % ERR=	3.66	ESTIMATION=	OLS
NEVA	-70.10	+	.0952	INTR	+	3.6548	NEVA	+	.5349	U.S.		R SQAR BAR=	.972	DURBIN WAT=	1.010
RSED			(.92)	IDPI		(.95)	YT1		(1.25)	DCT1		AVER % ERR=	6.37	ESTIMATION=	OLS
NHAM	-46.34	+	.8422	REGL	+	.0904	NHAM	+	-.0519	U.S.		R SQAR BAR=	.952	DURBIN WAT=	1.490
RSED			(1.03)	DIR		(.66)	PT9		(1.76)	TIMX		AVER % ERR=	7.83	ESTIMATION=	OLS
NJER	-26.74	+	.9898	REGL	+	.0607	NJER	+	-.1034	U.S.		R SQAR BAR=	.971	DURBIN WAT=	1.400
RSED			(1.00)	DIR		(.61)	PT9		(1.00)	TIMX		AVER % ERR=	3.67	ESTIMATION=	OLS
NMEX	-267.40	+	.1371	REGL	+	5.6237	NMEX	+	2.1916	U.S.		R SQAR BAR=	.985	DURBIN WAT=	1.412
RSED			(1.01)	DIR		(2.13)	YT1		(6.02)	DCT1		AVER % ERR=	4.89	ESTIMATION=	OLS
NYOR	852.95	+	3.5588	NYOR	+	.2314	U.S.					R SQAR BAR=	.966	DURBIN WAT=	1.619
RSED			(4.43)	YT1		(.98)	TIMX					AVER % ERR=	2.74	ESTIMATION=	OLS
NCAR	-1620.86	+	.9188	REGL	+	5.3883	NCAR	+	12.2824	U.S.		R SQAR BAR=	.991	DURBIN WAT=	1.831
RSED			(.31)	DIR		(.79)	YT1		(7.63)	DCT1		AVER % ERR=	5.36	ESTIMATION=	OLS

ESTIMATION FOR: RSED RETAIL SALES, EATING AND DRINKING PLACES (33)

NDAK	-70.28	+	2.1374	NDAK	+	.1070	NDAK	+	.4674	U.S.	R SQAR BAR=	.964	DURBIN WAT=	2.415
RSED			(3.63)	YT1		(5.04)	PT9		(1.70)	DCT1	AVER % ERR=	5.21	ESTIMATION=	OLS
OHIO	-3408.83	+	6.9314	OHIO	+	.0138	OHIO	+	26.7069	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.627
RSED			(2.89)	YT1		(.20)	PT9		(6.03)	DCT1	AVER % ERR=	4.99	ESTIMATION=	OLS
OKLA	-1036.14	+	.6284	REGL	+	.0961	OKLA	+	7.4309	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.641
RSED			(2.92)	DIR		(2.01)	PT9		(12.49)	DCT1	AVER % ERR=	3.41	ESTIMATION=	OLS
OREG	-632.57	+	9.0694	OREG	+	4.7383	U.S.				R SQAR BAR=	.982	DURBIN WAT=	1.863
RSED			(26.99)	YT1		(4.38)	DCT1				AVER % ERR=	5.06	ESTIMATION=	OLS
PENN	-88.37	+	.9299	REGL	+	.0921	PENN	+	-.3805	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.404
RSED			(1.40)	DIR		(1.62)	PT9		(2.54)	TIMX	AVER % ERR=	3.34	ESTIMATION=	OLS
RHIS	-380.76	+	.3226	REGL	+	.1539	RHIS	+	2.6742	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.053
RSED			(1.08)	DIR		(1.88)	PT9		(5.98)	DCT1	AVER % ERR=	4.71	ESTIMATION=	OLS
SCAR	-1100.54	+	.0945	INTR	+	7.0338	SCAR	+	8.3888	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.744
RSED			(.19)	IDPI		(.82)	YT1		(6.73)	DCT1	AVER % ERR=	7.02	ESTIMATION=	OLS
SDAK	-94.66	+	3.3974	SDAK	+	.0869	SDAK	+	.5876	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.990
RSED			(5.58)	YT1		(5.15)	PT9		(2.77)	DCT1	AVER % ERR=	4.56	ESTIMATION=	OLS
TENN	-1665.55	+	.1391	INTR	+	7.3466	TENN	+	12.6324	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.156
RSED			(.18)	IDPI		(.87)	YT1		(5.00)	DCT1	AVER % ERR=	6.26	ESTIMATION=	OLS
TEXA	-4345.30	+	8.6249	TEXA	+	33.2547	U.S.				R SQAR BAR=	.991	DURBIN WAT=	1.024
RSED			(40.44)	YT1		(8.78)	DCT1				AVER % ERR=	5.31	ESTIMATION=	OLS
UTAH	-709.49	+	.5574	REGL	+	.1907	UTAH	+	5.3327	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.418
RSED			(1.45)	DIR		(3.16)	PT9		(12.86)	DCT1	AVER % ERR=	5.69	ESTIMATION=	OLS
VERM	-262.42	+	.0951	REGL	+	.1483	VERM	+	1.7582	U.S.	R SQAR BAR=	.986	DURBIN WAT=	1.262
RSED			(1.38)	DIR		(1.79)	PT9		(4.27)	DCT1	AVER % ERR=	6.60	ESTIMATION=	OLS
VIRG	-1468.23	+	.6293	REGL	+	.1245	VIRG	+	10.5700	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.579
RSED			(1.15)	DIR		(2.61)	PT9		(9.06)	DCT1	AVER % ERR=	4.58	ESTIMATION=	OLS
WASH	-1535.85	+	.8976	INTR	+	5.9641	WASH	+	11.5211	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.057
RSED			(1.81)	IDPI		(2.71)	YT1		(10.71)	DCT1	AVER % ERR=	3.32	ESTIMATION=	OLS
WVIR	-124.80	+	.0845	INTR	+	.1734	WVIR	+	-.1013	U.S.	R SQAR BAR=	.984	DURBIN WAT=	.921
RSED			(1.16)	IDPI		(3.16)	PT9		(3.92)	TIMX	AVER % ERR=	5.86	ESTIMATION=	OLS
WISC	-1274.63	+	8.7350	WISC	+	10.0462	U.S.				R SQAR BAR=	.982	DURBIN WAT=	1.406
RSED			(26.97)	YT1		(5.14)	DCT1				AVER % ERR=	4.64	ESTIMATION=	OLS
WYOM	-129.65	+	.0428	INTR	+	6.5383	WYOM	+	1.0384	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.117
RSED			(1.10)	IDPI		(2.85)	YT1		(3.46)	DCT1	AVER % ERR=	5.58	ESTIMATION=	OLS

ESTIMATION FOR: RSA RETAIL SALES, AUTOMOBILE DEALERS (34)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1960 TO 1976 IN STATES: ALAS HAWA

ALAB	3019.43	+	-.6297	ALAB	+	-26.7854	U.S.	+	.6778	ALAB	+	-27.7340	U.S.	R SQAR BAR=	.977	DURBIN WAT=	1.189
RSA			(4.07)	UT2		(5.42)	DCT5		(5.53)	MVT1		(2.09)	TIME	AVER % ERR=	4.42	ESTIMATION=	OLS
ALAS	12.24	+	.0576	ALAS										R SQAR BAR=	.925	DURBIN WAT=	1.534
RSA			(14.09)	YT3										AVER % ERR=	10.40	ESTIMATION=	OLS
ARIS	16.20	+	.0922	ARIS	+	-.2239	ARIZ	+	.1549	ARIZ				R SQAR BAR=	.967	DURBIN WAT=	2.186
RSA			(5.13)	YT3		(2.12)	UT2		(1.25)	MVT1				AVER % ERR=	5.20	ESTIMATION=	OLS
ARKA	1524.42	+	-.2854	ARKA	+	-15.3619	U.S.	+	1.0004	ARKA	+	-20.9078	U.S.	R SQAR BAR=	.977	DURBIN WAT=	1.540
RSA			(2.17)	UT2		(3.86)	DCT5		(8.32)	MVT1		(2.19)	TIME	AVER % ERR=	5.02	ESTIMATION=	OLS
CALF	6533.18	+	-3.3924	CALF	+	-62.5137	U.S.	+	.5780	CALF				R SQAR BAR=	.973	DURBIN WAT=	1.160
RSA			(3.58)	UT2		(3.06)	DCT5		(6.57)	MVT1				AVER % ERR=	5.45	ESTIMATION=	OLS
COLO	1907.46	+	-.6792	COLO	+	-18.2392	U.S.	+	1.0318	COLO	+	-41.8012	U.S.	R SQAR BAR=	.964	DURBIN WAT=	1.687
RSA			(2.10)	UT2		(3.52)	DCT5		(7.83)	MVT1		(2.96)	TIME	AVER % ERR=	6.70	ESTIMATION=	OLS
CONN	1998.23	+	-.1658	CONN	+	-15.3789	U.S.	+	.2397	CONN				R SQAR BAR=	.945	DURBIN WAT=	1.619
RSA			(1.67)	UT2		(6.56)	DCT5		(2.68)	MVT1				AVER % ERR=	6.48	ESTIMATION=	OLS
DELA	383.82	+	-.0804	DELA	+	-2.9108	U.S.	+	.2635	DELA				R SQAR BAR=	.947	DURBIN WAT=	1.363
RSA			(2.72)	UT2		(4.17)	DCT5		(2.41)	MVT1				AVER % ERR=	5.64	ESTIMATION=	OLS
D.C.			E X O G E N O U S														
FLOR	-53.81	+	.1705	FLOR	+	-.9081	FLOR							R SQAR BAR=	.979	DURBIN WAT=	.935
RSA			(30.74)	YT3		(2.52)	UT2							AVER % ERR=	5.88	ESTIMATION=	OLS
GEOR	2884.07	+	-.3768	GEOR	+	-27.7551	U.S.	+	.8480	GEOR	+	-43.7339	U.S.	R SQAR BAR=	.963	DURBIN WAT=	1.305
RSA			(1.41)	UT2		(2.32)	DCT5		(5.95)	MVT1		(1.64)	TIME	AVER % ERR=	7.60	ESTIMATION=	OLS
HAWA	-18.16	+	.0934	HAWA	+	-.0575	HAWA							R SQAR BAR=	.971	DURBIN WAT=	1.409
RSA			(22.36)	YT3		(1.34)	UT2							AVER % ERR=	5.67	ESTIMATION=	OLS
IDAH	-58.15	+	.1246	IDAH	+	-.1113	IDAH	+	.2529	IDAH				R SQAR BAR=	.975	DURBIN WAT=	1.551
RSA			(4.69)	YT3		(1.81)	UT2		(1.22)	MVT1				AVER % ERR=	5.47	ESTIMATION=	OLS
ILLI	1899.78	+	-1.6156	ILLI	+	-30.8255	U.S.	+	.7948	ILLI				R SQAR BAR=	.971	DURBIN WAT=	1.181
RSA			(3.57)	UT2		(2.99)	DCT5		(6.69)	MVT1				AVER % ERR=	5.32	ESTIMATION=	OLS
INDI	-563.80	+	.1338	INDI	+	-.3552	INDI	+	.1931	INDI				R SQAR BAR=	.980	DURBIN WAT=	1.146
RSA			(8.89)	YT3		(1.95)	UT2		(1.56)	MVT1				AVER % ERR=	4.87	ESTIMATION=	OLS
IOWA	334.06	+	.0706	IOWA	+	-.4345	IOWA	+	-3.5708	U.S.	+	.2357	IOWA	R SQAR BAR=	.981	DURBIN WAT=	2.032
RSA			(2.61)	YT3		(3.05)	UT2		(.95)	DCT5		(1.89)	MVT1	AVER % ERR=	3.54	ESTIMATION=	OLS
KANS	-287.65	+	.0971	KANS	+	-.5726	KANS	+	.3241	KANS				R SQAR BAR=	.984	DURBIN WAT=	1.630
RSA			(9.04)	YT3		(4.92)	UT2		(3.54)	MVT1				AVER % ERR=	4.04	ESTIMATION=	OLS

ESTIMATION FOR: RSA RETAIL SALES, AUTOMOBILE DEALERS (34)

KENT	2724.47	+	-.2538	KENT	+	-23.1645	U.S.	+	.5513	KENT	+	-21.7037	U.S.	R SQAR BAR=	.969	DURBIN WAT=	1.819
RSA			(2.48)	UT2		(4.88)	DCT5		(5.85)	MVT1		(1.85)	TIME	AVER % ERR=	5.53	ESTIMATION=	OLS
LOUS	3271.73	+	-.4136	LOUS	+	-29.1475	U.S.	+	.9975	LOUS	+	-57.1612	U.S.	R SQAR BAR=	.974	DURBIN WAT=	1.870
RSA			(2.32)	UT2		(4.83)	DCT5		(7.63)	MVT1		(3.65)	TIME	AVER % ERR=	5.13	ESTIMATION=	OLS
MAIN	499.64	+	-.1106	MAIN	+	-4.2987	U.S.	+	.4474	MAIN				R SQAR BAR=	.963	DURBIN WAT=	1.781
RSA			(2.72)	UT2		(5.78)	DCT5		(5.64)	MVT1				AVER % ERR=	4.96	ESTIMATION=	OLS
MARY	3030.46	+	-.5781	MARY	+	-23.7990	U.S.	+	.2432	MARY				R SQAR BAR=	.940	DURBIN WAT=	1.321
RSA			(2.20)	UT2		(4.49)	DCT5		(1.92)	MVT1				AVER % ERR=	7.72	ESTIMATION=	OLS
MASS	5005.72	+	-.5323	MASS	+	-40.4627	U.S.	+	.4398	MASS	+	-37.0012	U.S.	R SQAR BAR=	.961	DURBIN WAT=	1.903
RSA			(2.34)	UT2		(4.67)	DCT5		(4.71)	MVT1		(1.69)	TIME	AVER % ERR=	6.06	ESTIMATION=	OLS
MICH	6779.79	+	-.7534	MICH	+	-57.1577	U.S.	+	.4246	MICH				R SQAR BAR=	.957	DURBIN WAT=	1.670
RSA			(3.69)	UT2		(3.93)	DCT5		(2.88)	MVT1				AVER % ERR=	6.16	ESTIMATION=	C-O
MINN	1877.26	+	-.3683	MINN	+	-19.1830	U.S.	+	.6874	MINN	+	-22.3926	U.S.	R SQAR BAR=	.952	DURBIN WAT=	1.434
RSA			(1.25)	UT2		(2.93)	DCT5		(4.36)	MVT1		(1.34)	TIME	AVER % ERR=	6.16	ESTIMATION=	OLS
MISS	-110.37	+	.1922	MISS										R SQAR BAR=	.934	DURBIN WAT=	1.152
RSA			(34.86)	YT3										AVER % ERR=	4.94	ESTIMATION=	OLS
MISR	-789.06	+	.1148	MISR	+	-.6242	MISR	+	.3824	MISR				R SQAR BAR=	.984	DURBIN WAT=	1.552
RSA			(4.00)	YT3		(2.73)	UT2		(1.94)	MVT1				AVER % ERR=	4.07	ESTIMATION=	C-O
MONT	480.17	+	-.1016	MONT	+	-3.1827	U.S.	+	.1857	MONT				R SQAR BAR=	.932	DURBIN WAT=	1.608
RSA			(2.19)	UT2		(6.06)	DCT5		(2.56)	MVT1				AVER % ERR=	4.79	ESTIMATION=	OLS
NEBR	-28.69	+	.0934	NEBR	+	-.3100	NEBR	+	.1408	NEBR				R SQAR BAR=	.988	DURBIN WAT=	1.560
RSA			(12.24)	YT3		(4.32)	UT2		(2.05)	MVT1				AVER % ERR=	3.21	ESTIMATION=	OLS
NEVA	360.06	+	-.0700	NEVA	+	-2.9005	U.S.	+	.4218	NEVA				R SQAR BAR=	.904	DURBIN WAT=	1.001
RSA			(1.24)	UT2		(1.32)	DCT5		(1.80)	MVT1				AVER % ERR=	11.32	ESTIMATION=	OLS
NHAM	-233.33	+	.1518	NHAM	+	-.0874	NHAM	+	.5582	NHAM				R SQAR BAR=	.982	DURBIN WAT=	2.644
RSA			(2.62)	YT3		(1.76)	UT2		(1.60)	MVT1				AVER % ERR=	5.12	ESTIMATION=	C-O
NJER	1033.19	+	-1.1831	NJER	+	-17.7872	U.S.	+	.7197	NJER				R SQAR BAR=	.960	DURBIN WAT=	1.450
RSA			(3.10)	UT2		(1.33)	DCT5		(3.83)	MVT1				AVER % ERR=	5.74	ESTIMATION=	C-O
NMEX	-114.39	+	.1065	NMEX	+	-.1937	NMEX	+	.3816	NMEX				R SQAR BAR=	.962	DURBIN WAT=	1.357
RSA			(2.33)	YT3		(1.68)	UT2		(1.42)	MVT1				AVER % ERR=	6.57	ESTIMATION=	OLS
NYOR	10457.27	+	-2.0696	NYOR	+	-95.8026	U.S.	+	.6635	NYOR	+	-118.4550	U.S.	R SQAR BAR=	.977	DURBIN WAT=	2.078
RSA			(3.72)	UT2		(6.37)	DCT5		(6.64)	MVT1		(2.73)	TIME	AVER % ERR=	3.94	ESTIMATION=	OLS
NCAR	4980.58	+	-.5664	NCAR	+	-42.3453	U.S.	+	.5865	NCAR	+	-40.1948	U.S.	R SQAR BAR=	.971	DURBIN WAT=	1.377
RSA			(2.70)	UT2		(4.50)	DCT5		(4.89)	MVT1		(1.69)	TIME	AVER % ERR=	5.63	ESTIMATION=	OLS

ESTIMATION FOR: RSA RETAIL SALES, AUTOMOBILE DEALERS (34)

NDAK	189.53	+	.0340	NDAK	+	-.1018	NDAK	+	-3.1888	U.S.	+	.8353	NDAK	R SQAR BAR=	.971	DURBIN WAT=	1.088
RSA			(1.97)	YT3		(1.79)	UT2		(4.10)	DCT5		(7.37)	MVT1	AVER % ERR=	5.49	ESTIMATION=	OLS
OHIO	-820.99	+	.1008	OHIO	+	-.7243	OHIO	+	.2199	OHIO				R SQAR BAR=	.968	DURBIN WAT=	1.131
RSA			(6.07)	YT3		(2.15)	UT2		(2.05)	MVT1				AVER % ERR=	5.57	ESTIMATION=	OLS
OKLA	3547.42	+	-.9533	OKLA	+	-37.8112	U.S.	+	2.1106	OKLA	+	-115.8650	U.S.	R SQAR BAR=	.952	DURBIN WAT=	1.434
RSA			(2.09)	UT2		(4.52)	DCT5		(7.15)	MVT1		(4.63)	TIME	AVER % ERR=	8.92	ESTIMATION=	OLS
OREG	3042.09	+	-.3783	OREG	+	-24.2235	U.S.	+	.8453	OREG	+	-47.6230	U.S.	R SQAR BAR=	.983	DURBIN WAT=	1.666
RSA			(3.14)	UT2		(2.58)	DCT5		(5.98)	MVT1		(1.65)	TIME	AVER % ERR=	3.82	ESTIMATION=	C-O
PENN	10212.95	+	-1.0119	PENN	+	-87.1762	U.S.	+	.5793	PENN	+	-102.0720	U.S.	R SQAR BAR=	.962	DURBIN WAT=	2.070
RSA			(2.51)	UT2		(5.27)	DCT5		(4.98)	MVT1		(2.20)	TIME	AVER % ERR=	5.39	ESTIMATION=	OLS
RHIS	309.83	+	-.0452	RHIS	+	-3.6951	U.S.	+	.6159	RHIS				R SQAR BAR=	.954	DURBIN WAT=	1.814
RSA			(2.16)	UT2		(2.44)	DCT5		(2.85)	MVT1				AVER % ERR=	6.57	ESTIMATION=	C-O
SCAR	-86.07	+	.1604	SCAR	+	-.1442	SCAR							R SQAR BAR=	.986	DURBIN WAT=	1.574
RSA			(17.27)	YT3		(2.82)	UT2							AVER % ERR=	4.88	ESTIMATION=	C-O
SDAK	193.09	+	.0454	SDAK	+	-1.8003	U.S.	+	.2758	SDAK				R SQAR BAR=	.949	DURBIN WAT=	1.779
RSA			(2.22)	YT3		(2.16)	DCT5		(2.76)	MVT1				AVER % ERR=	5.45	ESTIMATION=	OLS
TENN	2413.17	+	-.5094	TENN	+	-26.3461	U.S.	+	.7508	TENN				R SQAR BAR=	.970	DURBIN WAT=	2.057
RSA			(3.02)	UT2		(3.15)	DCT5		(3.61)	MVT1				AVER % ERR=	6.21	ESTIMATION=	C-O
TEXA	10345.34	+	-3.1843	TEXA	+	-90.2057	U.S.	+	1.0218	TEXA	+	-197.7900	U.S.	R SQAR BAR=	.967	DURBIN WAT=	1.816
RSA			(2.88)	UT2		(3.97)	DCT5		(6.99)	MVT1		(3.22)	TIME	AVER % ERR=	6.36	ESTIMATION=	OLS
UTAH	-36.34	+	.1609	UTAH	+	-.1745	UTAH							R SQAR BAR=	.979	DURBIN WAT=	1.492
RSA			(29.52)	YT3		(2.03)	UT2							AVER % ERR=	5.69	ESTIMATION=	OLS
VERM	219.02	+	-.0297	VERM	+	-1.6720	U.S.	+	.3556	VERM				R SQAR BAR=	.958	DURBIN WAT=	1.984
RSA			(1.62)	UT2		(3.62)	DCT5		(4.21)	MVT1				AVER % ERR=	5.11	ESTIMATION=	OLS
VIRG	2217.82	+	-.6604	VIRG	+	-20.4555	U.S.	+	.4965	VIRG				R SQAR BAR=	.969	DURBIN WAT=	1.322
RSA			(2.19)	UT2		(2.85)	DCT5		(3.79)	MVT1				AVER % ERR=	5.30	ESTIMATION=	C-O
WASH	993.47	+	.0397	WASH	+	-.2411	WASH	+	-9.7096	U.S.	+	.3667	WASH	R SQAR BAR=	.982	DURBIN WAT=	1.511
RSA			(1.00)	YT3		(2.15)	UT2		(2.03)	DCT5		(1.68)	MVT1	AVER % ERR=	3.75	ESTIMATION=	OLS
WVIR	899.34	+	-.0596	WVIR	+	-7.9393	U.S.	+	.3786	WVIR				R SQAR BAR=	.952	DURBIN WAT=	1.431
RSA			(1.55)	UT2		(6.97)	DCT5		(6.33)	MVT1				AVER % ERR=	6.70	ESTIMATION=	OLS
WISC	2931.72	+	-.9809	WISC	+	-29.7558	U.S.	+	1.0357	WISC	+	-63.0528	U.S.	R SQAR BAR=	.949	DURBIN WAT=	1.561
RSA			(2.35)	UT2		(3.10)	DCT5		(5.67)	MVT1		(2.64)	TIME	AVER % ERR=	7.06	ESTIMATION=	OLS
WYOM	147.07	+	-.0495	WYOM	+	-1.4355	U.S.	+	.4645	WYOM				R SQAR BAR=	.911	DURBIN WAT=	1.381
RSA			(1.57)	UT2		(4.72)	DCT5		(5.24)	MVT1				AVER % ERR=	6.92	ESTIMATION=	OLS

ESTIMATION FOR: RSGS RETAIL SALES, GASOLINE STATIONS (35)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1960 TO 1976 IN STATES: ALAS HAWA

ALAB	481.02	+	-4.4339	U.S.	+	.1662	ALAB							R SQAR BAR=	.983	DURBIN WAT=	1.959
RSGS			(5.47)	DCT6		(33.96)	MVT2							AVER % ERR=	3.65	ESTIMATION=	OLS
ALAS	-33.56	+	.0375	ALAS	+	.2264	ALAS							R SQAR BAR=	.993	DURBIN WAT=	1.520
RSGS			(4.33)	DPI		(3.61)	MVT2							AVER % ERR=	5.54	ESTIMATION=	C-O
ARIS	206.17	+	-1.7109	U.S.	+	.0466	ARIZ	+	8.8455	U.S.				R SQAR BAR=	.974	DURBIN WAT=	1.609
RSGS			(1.73)	DCT6		(2.71)	MVT2		(3.98)	TIME				AVER % ERR=	4.06	ESTIMATION=	OLS
ARKA	458.55	+	-4.8712	U.S.	+	.3690	ARKA	+	-5.9579	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.101
RSGS			(2.85)	DCT6		(9.15)	MVT2		(1.57)	TIME				AVER % ERR=	5.94	ESTIMATION=	OLS
CALF	4243.51	+	-38.2460	U.S.	+	.1379	CALF	+	34.9641	U.S.				R SQAR BAR=	.980	DURBIN WAT=	2.307
RSGS			(3.29)	DCT6		(5.00)	MVT2		(1.23)	TIME				AVER % ERR=	3.20	ESTIMATION=	OLS
COLO	481.28	+	-4.1214	U.S.	+	.1460	COLO							R SQAR BAR=	.971	DURBIN WAT=	1.130
RSGS			(5.39)	DCT6		(25.47)	MVT2							AVER % ERR=	5.72	ESTIMATION=	OLS
CONN	559.76	+	-5.8086	U.S.	+	.3286	CONN	+	-8.1037	U.S.	+	115.3670	U.S.	R SQAR BAR=	.984	DURBIN WAT=	2.110
RSGS			(2.25)	DCT6		(8.52)	MVT2		(1.36)	TIME		(2.89)	DU74	AVER % ERR=	3.82	ESTIMATION=	OLS
DELA			E X O G E N O U S														
D.C.	135.85	+	-.9836	U.S.	+	.1468	D.C.	+	-5.2502	U.S.				R SQAR BAR=	.865	DURBIN WAT=	1.647
RSGS			(4.77)	DCT6		(9.46)	MVT2		(.78)	DU74				AVER % ERR=	5.15	ESTIMATION=	OLS
FLOR	1233.47	+	-12.0097	U.S.	+	.2227	FLOR							R SQAR BAR=	.973	DURBIN WAT=	1.598
RSGS			(3.30)	DCT6		(26.47)	MVT2							AVER % ERR=	5.66	ESTIMATION=	OLS
GEOR	988.64	+	-9.5426	U.S.	+	.2270	GEOR							R SQAR BAR=	.958	DURBIN WAT=	1.660
RSGS			(3.69)	DCT6		(21.08)	MVT2							AVER % ERR=	5.91	ESTIMATION=	OLS
HAWA	123.58	+	-1.1178	U.S.	+	.0780	HAWA	+	1.8523	U.S.	+	-3.2461	U.S.	R SQAR BAR=	.971	DURBIN WAT=	1.503
RSGS			(2.69)	DCT6		(2.82)	MVT2		(1.47)	TIME		(.56)	DU74	AVER % ERR=	2.95	ESTIMATION=	OLS
IDAH	151.00	+	-1.4518	U.S.	+	.1908	IDAH	+	12.3608	U.S.				R SQAR BAR=	.988	DURBIN WAT=	1.762
RSGS			(6.90)	DCT6		(37.46)	MVT2		(1.83)	DU74				AVER % ERR=	2.97	ESTIMATION=	OLS
ILLI	2869.42	+	-27.5726	U.S.	+	.3078	ILLI	+	-19.7371	U.S.				R SQAR BAR=	.974	DURBIN WAT=	1.981
RSGS			(3.23)	DCT6		(7.63)	MVT2		(1.07)	TIME				AVER % ERR=	4.00	ESTIMATION=	OLS
INDI	1222.25	+	-12.8403	U.S.	+	.2904	INDI	+	-16.4853	U.S.				R SQAR BAR=	.936	DURBIN WAT=	1.776
RSGS			(3.46)	DCT6		(15.26)	MVT2		(.14)	DU74				AVER % ERR=	6.09	ESTIMATION=	OLS
IOWA	1005.72	+	-10.3868	U.S.	+	.4061	IOWA	+	-13.6518	U.S.	+	3.9534	U.S.	R SQAR BAR=	.980	DURBIN WAT=	2.195
RSGS			(3.35)	DCT6		(9.18)	MVT2		(2.08)	TIME		(.09)	DU74	AVER % ERR=	3.82	ESTIMATION=	OLS
KANS	513.85	+	-5.0936	U.S.	+	.2727	KANS	+	-4.5665	U.S.	+	-24.7152	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.117
RSGS			(6.65)	DCT6		(21.77)	MVT2		(2.83)	TIME		(2.11)	DU74	AVER % ERR=	1.69	ESTIMATION=	OLS

ESTIMATION FOR: RSGS RETAIL SALES. GASOLINE STATIONS (35)

KENT	626.52	+	-6.4963	U.S.	+	.2376	KENT	+	50.2606	U.S.				R SQAR BAR=	.981	DURBIN WAT=	2.042
RSGS			(5.57)	DCT6		(28.51)	MVT2		(1.32)	DU74				AVER % ERR=	4.35	ESTIMATION=	OLS
LOUS	952.78	+	-8.8116	U.S.	+	.2726	LOUS	+	-9.9978	U.S.	+	43.9282	U.S.	R SQAR BAR=	.989	DURBIN WAT=	2.317
RSGS			(4.99)	DCT6		(12.17)	MVT2		(2.62)	TIME		(1.62)	DU74	AVER % ERR=	3.02	ESTIMATION=	OLS
MAIN	225.11	+	-2.2235	U.S.	+	.2268	MAIN	+	32.9787	U.S.				R SQAR BAR=	.934	DURBIN WAT=	1.871
RSGS			(3.45)	DCT6		(14.73)	MVT2		(1.59)	DU74				AVER % ERR=	6.97	ESTIMATION=	OLS
MARY	882.71	+	-8.6373	U.S.	+	.2349	MARY	+	43.7834	U.S.				R SQAR BAR=	.972	DURBIN WAT=	1.579
RSGS			(5.28)	DCT6		(23.20)	MVT2		(.83)	DU74				AVER % ERR=	5.14	ESTIMATION=	OLS
MASS	1074.29	+	-10.5835	U.S.	+	.2325	MASS	+	92.8807	U.S.				R SQAR BAR=	.970	DURBIN WAT=	2.242
RSGS			(5.20)	DCT6		(21.84)	MVT2		(1.40)	DU74				AVER % ERR=	4.45	ESTIMATION=	OLS
MICH	2307.16	+	-20.1492	U.S.	+	.1724	MICH							R SQAR BAR=	.969	DURBIN WAT=	1.559
RSGS			(8.13)	DCT6		(24.05)	MVT2							AVER % ERR=	4.26	ESTIMATION=	OLS
MINN	802.76	+	-8.5195	U.S.	+	.2615	MINN	+	26.5719	U.S.				R SQAR BAR=	.971	DURBIN WAT=	1.828
RSGS			(4.83)	DCT6		(22.84)	MVT2		(.46)	DU74				AVER % ERR=	4.22	ESTIMATION=	OLS
MISS	226.60	+	-2.1591	U.S.	+	.2022	MISS							R SQAR BAR=	.994	DURBIN WAT=	1.861
RSGS			(6.57)	DCT6		(56.30)	MVT2							AVER % ERR=	2.47	ESTIMATION=	OLS
MISR	1036.42	+	-10.4228	U.S.	+	.2836	MISR	+	25.9530	U.S.				R SQAR BAR=	.976	DURBIN WAT=	2.111
RSGS			(5.31)	DCT6		(25.18)	MVT2		(.41)	DU74				AVER % ERR=	4.29	ESTIMATION=	OLS
MONT	138.37	+	-1.3912	U.S.	+	.2222	MONT	+	14.9944	U.S.				R SQAR BAR=	.978	DURBIN WAT=	2.048
RSGS			(4.58)	DCT6		(25.92)	MVT2		(1.52)	DU74				AVER % ERR=	4.07	ESTIMATION=	OLS
NEBR	309.80	+	-3.1534	U.S.	+	.2147	NEBR	+	2.1861	U.S.				R SQAR BAR=	.992	DURBIN WAT=	2.283
RSGS			(4.39)	DCT6		(11.37)	MVT2		(1.42)	TIME				AVER % ERR=	2.71	ESTIMATION=	OLS
NEVA	87.65	+	-.8689	U.S.	+	.0893	NEVA	+	4.0973	U.S.	+	1.8194	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.693
RSGS			(2.96)	DCT6		(5.47)	MVT2		(6.13)	TIME		(.38)	DU74	AVER % ERR=	2.84	ESTIMATION=	OLS
NHAM	387.40	+	-3.7157	U.S.	+	.3501	NHAM	+	-3.4138	U.S.	+	49.0484	U.S.	R SQAR BAR=	.961	DURBIN WAT=	2.360
RSGS			(3.40)	DCT6		(6.72)	MVT2		(1.59)	TIME		(2.89)	DU74	AVER % ERR=	7.09	ESTIMATION=	OLS
NJER	730.51	+	-6.2469	U.S.	+	.1174	NJER	+	12.7328	U.S.	+	25.8396	U.S.	R SQAR BAR=	.975	DURBIN WAT=	1.799
RSGS			(1.67)	DCT6		(4.50)	MVT2		(1.52)	TIME		(.45)	DU74	AVER % ERR=	3.44	ESTIMATION=	OLS
NMEX	322.35	+	-3.0358	U.S.	+	.3768	NMEX	+	-5.3970	U.S.	+	34.4995	U.S.	R SQAR BAR=	.978	DURBIN WAT=	1.595
RSGS			(2.59)	DCT6		(9.19)	MVT2		(2.17)	TIME		(1.84)	DU74	AVER % ERR=	4.66	ESTIMATION=	OLS
NYOR	1632.98	+	-14.4277	U.S.	+	.1326	NYOR	+	20.7156	U.S.	+	155.6061	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.887
RSGS			(3.07)	DCT6		(7.04)	MVT2		(2.11)	TIME		(2.16)	DU74	AVER % ERR=	2.57	ESTIMATION=	OLS
NCAR	730.72	+	-6.5247	U.S.	+	.0694	NCAR	+	16.8872	U.S.	+	8.5037	U.S.	R SQAR BAR=	.979	DURBIN WAT=	1.489
RSGS			(2.68)	DCT6		(4.06)	MVT2		(3.25)	TIME		(.21)	DU74	AVER % ERR=	3.53	ESTIMATION=	OLS

ESTIMATION FOR: RSGS RETAIL SALES, GASOLINE STATIONS (35)

NDAK	270.40	+	-2.7415	U.S.	+	.2872	NDAK	+	-1.9189	U.S.	+	12.2186	U.S.	R SQAR BAR=	.969	DURBIN WAT=	2.394
RSGS			(3.32)	DCT6		(7.56)	MVT2		(1.20)	TIME		(.99)	DU74	AVER % ERR=	4.23	ESTIMATION=	OLS
OHIO	1534.96	+	-13.0113	U.S.	+	.1154	OHIO	+	25.6649	U.S.	+	-65.6541	U.S.	R SQAR BAR=	.986	DURBIN WAT=	1.540
RSGS			(2.68)	DCT6		(5.94)	MVT2		(2.49)	TIME		(.89)	DU74	AVER % ERR=	2.84	ESTIMATION=	OLS
OKLA	271.36	+	-2.2509	U.S.	+	.1100	OKLA	+	5.9752	U.S.	+	-8.1248	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.582
RSGS			(4.13)	DCT6		(15.01)	MVT2		(5.13)	TIME		(.95)	DU74	AVER % ERR=	1.35	ESTIMATION=	OLS
OREG	564.20	+	-5.2749	U.S.	+	.1833	OREG							R SQAR BAR=	.985	DURBIN WAT=	1.826
RSGS			(9.37)	DCT6		(35.26)	MVT2							AVER % ERR=	3.55	ESTIMATION=	OLS
PENN	1845.40	+	-17.1668	U.S.	+	.1815	PENN	+	194.3057	U.S.				R SQAR BAR=	.987	DURBIN WAT=	2.124
RSGS			(7.31)	DCT6		(34.39)	MVT2		(2.57)	DU74				AVER % ERR=	3.14	ESTIMATION=	OLS
RHIS	156.35	+	-1.5034	U.S.	+	.1797	RHIS	+	10.0355	U.S.				R SQAR BAR=	.979	DURBIN WAT=	1.933
RSGS			(6.28)	DCT6		(26.41)	MVT2		(1.28)	DU74				AVER % ERR=	3.67	ESTIMATION=	OLS
SCAR	455.74	+	-4.3090	U.S.	+	.0486	SCAR	+	26.8149	U.S.				R SQAR BAR=	.884	DURBIN WAT=	2.005
RSGS			(1.94)	DCT6		(10.33)	DPI		(.39)	DU74				AVER % ERR=	8.51	ESTIMATION=	OLS
SDAK	217.42	+	-2.1248	U.S.	+	.2140	SDAK	+	5.4967	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.580
RSGS			(10.48)	DCT6		(30.84)	MVT2		(.83)	DU74				AVER % ERR=	3.12	ESTIMATION=	OLS
TENN	959.31	+	-9.0199	U.S.	+	.2117	TENN	+	63.4521	U.S.				R SQAR BAR=	.959	DURBIN WAT=	2.034
RSGS			(4.61)	DCT6		(18.84)	MVT2		(1.00)	DU74				AVER % ERR=	5.38	ESTIMATION=	OLS
TEXA	3212.92	+	-30.1380	U.S.	+	.2619	TEXA	+	-25.3969	U.S.	+	19.1682	U.S.	R SQAR BAR=	.979	DURBIN WAT=	1.994
RSGS			(3.32)	DCT6		(8.63)	MVT2		(1.31)	TIME		(.13)	DU74	AVER % ERR=	3.88	ESTIMATION=	OLS
UTAH	188.68	+	-1.5062	U.S.	+	.1517	UTAH	+	13.4536	U.S.				R SQAR BAR=	.979	DURBIN WAT=	1.623
RSGS			(4.84)	DCT6		(27.05)	MVT2		(1.35)	DU74				AVER % ERR=	4.14	ESTIMATION=	OLS
VERM	56.78	+	-.7626	U.S.	+	.3735	VERM	+	15.8652	U.S.				R SQAR BAR=	.965	DURBIN WAT=	2.093
RSGS			(2.24)	DCT6		(20.57)	MVT2		(1.43)	DU74				AVER % ERR=	7.10	ESTIMATION=	OLS
VIRG	1038.15	+	-9.9347	U.S.	+	.2250	VIRG	+	144.8631	U.S.				R SQAR BAR=	.972	DURBIN WAT=	1.731
RSGS			(4.60)	DCT6		(23.81)	MVT2		(2.12)	DU74				AVER % ERR=	4.94	ESTIMATION=	OLS
WASH	727.43	+	-7.2418	U.S.	+	.2663	WASH	+	-5.2396	U.S.				R SQAR BAR=	.991	DURBIN WAT=	2.718
RSGS			(3.97)	DCT6		(11.93)	MVT2		(1.24)	TIME				AVER % ERR=	2.77	ESTIMATION=	OLS
WVIR	-28.12	+	.0760	WVIR	+	-4.8661	U.S.	+	26.0126	U.S.				R SQAR BAR=	.972	DURBIN WAT=	1.211
RSGS			(12.33)	DPI		(2.74)	TIME		(1.25)	DU74				AVER % ERR=	6.42	ESTIMATION=	OLS
WISC	700.99	+	-7.2443	U.S.	+	.2541	WISC							R SQAR BAR=	.959	DURBIN WAT=	1.762
RSGS			(3.70)	DCT6		(21.49)	MVT2							AVER % ERR=	5.51	ESTIMATION=	OLS
WYOM	119.14	+	-1.1370	U.S.	+	.2595	WYOM	+	6.1837	U.S.				R SQAR BAR=	.967	DURBIN WAT=	1.374
RSGS			(5.01)	DCT6		(21.71)	MVT2		(.84)	DU74				AVER % ERR=	4.72	ESTIMATION=	OLS

ESTIMATION FOR: RSO RETAIL SALES, ALL OTHER ESTABLISHMENTS (36)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976

ALAB	-1543.72	+	19.3241	ALAB	+	.5089	ALAB	+	3.0711	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.421
RSO			(2.11)	YT1		(1.79)	PT6		(1.92)	CCI	AVER % ERR=	2.57	ESTIMATION=	C-O
ALAS	-151.27	+	.1115	ALAS	+	.9101	ALAS	+	1.3123	U.S.	R SQAR BAR=	.986	DURBIN WAT=	2.145
RSO			(2.43)	YT3		(4.20)	PT6		(3.30)	CCIP	AVER % ERR=	7.07	ESTIMATION=	OLS
ARIS	-14.67	+	26.9237	ARIS	+	.6307	ARIZ	+	-55.3228	U.S.	R SQAR BAR=	.990	DURBIN WAT=	2.018
RSO			(3.30)	YT1		(2.65)	PT6		(5.84)	TIME	AVER % ERR=	4.46	ESTIMATION=	OLS
ARKA	-330.82	+	.0908	ARKA	+	.5259	ARKA	+	.9622	U.S.	R SQAR BAR=	.985	DURBIN WAT=	2.406
RSO			(1.41)	YT3		(2.72)	PT6		(.78)	CCI	AVER % ERR=	3.31	ESTIMATION=	OLS
CALF	-6508.03	+	16.1554	CALF	+	.5343	CALF	+	20.4725	U.S.	R SQAR BAR=	.994	DURBIN WAT=	2.224
RSO			(1.07)	YT1		(1.00)	PT6		(1.69)	CCI	AVER % ERR=	2.16	ESTIMATION=	C-O
COLO	-162.07	+	.2518	COLO	+	.6903	COLO	+	-62.5473	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.632
RSO			(2.06)	YT3		(1.78)	PT6		(5.21)	TIME	AVER % ERR=	4.18	ESTIMATION=	OLS
CONN	-419.45	+	.0883	CONN	+	.6460	CONN	+	3.0838	U.S.	R SQAR BAR=	.983	DURBIN WAT=	1.317
RSO			(1.18)	YT3		(2.24)	PT6		(1.30)	CCIP	AVER % ERR=	3.57	ESTIMATION=	OLS
DELA	-156.74	+	33.1125	DELA	+	.8797	DELA	+	-19.5043	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.419
RSO			(2.30)	YT1		(1.59)	PT6		(4.74)	TIME	AVER % ERR=	4.04	ESTIMATION=	OLS
D.C.	660.99	+	.0477	D.C.							R SQAR BAR=	.129	DURBIN WAT=	.912
RSO			(1.99)	YT3							AVER % ERR=	6.81	ESTIMATION=	OLS
FLOR	-4030.45	+	.3422	FLOR	+	.4082	FLOR	+	10.3233	U.S.	R SQAR BAR=	.992	DURBIN WAT=	2.302
RSO			(3.22)	YT3		(1.28)	PT6		(1.35)	CCI	AVER % ERR=	3.73	ESTIMATION=	C-O
GEOR	-1769.44	+	.1259	GEOR	+	.6764	GEOR	+	3.2007	U.S.	R SQAR BAR=	.990	DURBIN WAT=	2.243
RSO			(1.65)	YT3		(2.79)	PT6		(.92)	CCI	AVER % ERR=	3.31	ESTIMATION=	C-O
HAWA	-316.81	+	.1470	HAWA	+	.6793	HAWA				R SQAR BAR=	.995	DURBIN WAT=	1.716
RSO			(3.03)	YT3		(3.98)	PT6				AVER % ERR=	3.02	ESTIMATION=	OLS
IDAH	176.01	+	.0953	IDAH	+	10.2071	U.S.				R SQAR BAR=	.964	DURBIN WAT=	1.906
RSO			(5.19)	YT3		(4.20)	TIME				AVER % ERR=	3.41	ESTIMATION=	OLS
ILLI	-814.05	+	17.2300	ILLI	+	.2943	ILLI	+	9.7483	U.S.	R SQAR BAR=	.992	DURBIN WAT=	2.075
RSO			(2.58)	YT1		(1.03)	PT6		(1.53)	CCI	AVER % ERR=	2.29	ESTIMATION=	OLS
INDI	-667.62	+	.1202	INDI	+	.4043	INDI	+	4.8474	U.S.	R SQAR BAR=	.983	DURBIN WAT=	2.162
RSO			(2.20)	YT3		(2.01)	PT6		(1.30)	CCI	AVER % ERR=	2.78	ESTIMATION=	OLS
IOWA			E X O G E N O U S											
KANS	-404.71	+	8.9740	KANS	+	.4215	KANS	+	3.4950	U.S.	R SQAR BAR=	.978	DURBIN WAT=	2.184
RSO			(2.05)	YT1		(2.35)	PT6		(2.60)	CCI	AVER % ERR=	2.93	ESTIMATION=	OLS

ESTIMATION FOR: RSO RETAIL SALES, ALL OTHER ESTABLISHMENTS (36)

KENT	-376.42	+	.1828	KENT	+	.3109	KENT	+	.8736	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.711
RSO			(3.10)	YT3		(1.81)	PT6		(.90)	CCIP	AVER % ERR=	2.27	ESTIMATION=	C-0
LOUS	391.23	+	27.1892	LOUS	+	-13.5346	U.S.				R SQAR BAR=	.989	DURBIN WAT=	2.108
RSO			(14.20)	YT1		(1.28)	TIME				AVER % ERR=	3.25	ESTIMATION=	OLS
MAIN	-74.50	+	.2141	MAIN	+	.2618	MAIN	+	.5797	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.807
RSO			(3.86)	YT3		(1.72)	PT6		(1.39)	CCIP	AVER % ERR=	2.61	ESTIMATION=	C-0
MARY	-433.36	+	.2346	MARY	+	.5175	MARY	+	-70.2528	U.S.	R SQAR BAR=	.992	DURBIN WAT=	2.144
RSO			(2.46)	YT3		(1.68)	PT6		(3.73)	TIME	AVER % ERR=	2.95	ESTIMATION=	OLS
MASS	-933.06	+	.3440	MASS	+	.5313	MASS	+	-160.7000	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.655
RSO			(3.83)	YT3		(2.84)	PT6		(4.21)	TIME	AVER % ERR=	2.47	ESTIMATION=	OLS
MICH	-102.59	+	.2470	MICH	+	.2058	MICH	+	-96.1954	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.663
RSO			(7.25)	YT3		(2.15)	PT6		(3.69)	TIME	AVER % ERR=	1.99	ESTIMATION=	OLS
MINN	255.96	+	.1822	MINN	+	.2513	MINN	+	2.9789	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.031
RSO			(4.16)	YT3		(1.69)	PT6		(1.44)	CCIP	AVER % ERR=	3.09	ESTIMATION=	OLS
MISS	-397.02	+	.1586	MISS	+	.4924	MISS	+	-13.4088	U.S.	R SQAR BAR=	.986	DURBIN WAT=	2.324
RSO			(2.22)	YT3		(3.53)	PT6		(1.43)	TIME	AVER % ERR=	3.51	ESTIMATION=	OLS
MISR	1333.56	+	13.5903	MISR	+	26.0575	U.S.				R SQAR BAR=	.970	DURBIN WAT=	1.302
RSO			(5.75)	YT1		(1.42)	TIME				AVER % ERR=	3.29	ESTIMATION=	OLS
MONT	108.97	+	.1413	MONT	+	.1707	MONT	+	.5726	U.S.	R SQAR BAR=	.967	DURBIN WAT=	1.802
RSO			(2.82)	YT3		(1.10)	PT6		(1.33)	CCIP	AVER % ERR=	3.68	ESTIMATION=	OLS
NEBR	1030.40	+	.0365	NEBR							R SQAR BAR=	.879	DURBIN WAT=	1.634
RSO			(1.17)	YT3							AVER % ERR=	3.82	ESTIMATION=	C-0
NEVA	68.20	+	.4792	NEVA	+	-17.7151	U.S.				R SQAR BAR=	.983	DURBIN WAT=	1.163
RSO			(13.52)	YT3		(3.73)	TIME				AVER % ERR=	5.72	ESTIMATION=	OLS
NHAM	-262.84	+	.2811	NHAM	+	.4877	NHAM	+	.6282	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.233
RSO			(2.75)	YT3		(1.62)	PT6		(1.43)	CCIP	AVER % ERR=	3.23	ESTIMATION=	C-0
NJER	-3666.79	+	.0749	NJER	+	.8680	NJER	+	10.9015	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.290
RSO			(.99)	YT3		(3.03)	PT6		(2.43)	CCI	AVER % ERR=	2.59	ESTIMATION=	C-0
NMEX	-.22	+	50.2237	NMEX	+	-21.2725	U.S.				R SQAR BAR=	.988	DURBIN WAT=	1.477
RSO			(20.26)	YT1		(5.45)	TIME				AVER % ERR=	3.98	ESTIMATION=	OLS
NYOR	-499.31	+	.2656	NYOR	+	.2328	NYOR	+	-208.9340	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.234
RSO			(3.02)	YT3		(1.23)	PT6		(1.71)	TIME	AVER % ERR=	2.29	ESTIMATION=	OLS
NCAR	-1259.19	+	.1007	NCAR	+	.6356	NCAR	+	1.9986	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.358
RSO			(2.31)	YT3		(4.72)	PT6		(1.15)	CCIP	AVER % ERR=	2.07	ESTIMATION=	C-0

ESTIMATION FOR: RSC RETAIL SALES, ALL OTHER ESTABLISHMENTS (36)

NDAK	462.94	+	.0080	NDAK							R SQAR BAR=	.795	DURBIN WAT=	1.511
RSO			(.44)	YT3							AVER % ERR=	4.00	ESTIMATION=	C-O
OHIO	-3178.94	+	.1209	OHIO	+	.5516	OHIO	+	8.0207	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.017
RSO			(2.76)	YT3		(3.51)	PT6		(1.70)	CCI	AVER % ERR=	1.86	ESTIMATION=	C-O
OKLA	-244.71	+	.1636	OKLA	+	.3460	OKLA	+	.6531	U.S.	R SQAR BAR=	.988	DURBIN WAT=	2.158
RSO			(2.38)	YT3		(1.62)	PT6		(.41)	CCI	AVER % ERR=	2.93	ESTIMATION=	OLS
OREG	206.08	+	.1802	OREG	+	20.9381	U.S.				R SQAR BAR=	.987	DURBIN WAT=	1.235
RSO			(9.88)	YT3		(3.05)	TIME				AVER % ERR=	2.76	ESTIMATION=	OLS
PENN	-6.28	+	36.5794	PENN	+	-156.7760	U.S.				R SQAR BAR=	.994	DURBIN WAT=	2.222
RSO			(22.94)	YT1		(4.97)	TIME				AVER % ERR=	2.08	ESTIMATION=	OLS
RHIS	-113.34	+	12.3401	RHIS	+	.5285	RHIS	+	.8562	U.S.	R SQAR BAR=	.983	DURBIN WAT=	.935
RSO			(1.45)	YT1		(1.70)	PT6		(1.41)	CCIP	AVER % ERR=	3.25	ESTIMATION=	OLS
SCAR	-51.48	+	.3210	SCAR	+	.1532	SCAR	+	-28.6584	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.504
RSO			(7.71)	YT3		(1.62)	PT6		(4.55)	TIME	AVER % ERR=	1.95	ESTIMATION=	OLS
SDAK			E X O G E N O U S											
TENN	-115.20	+	.2887	TENN	+	.2170	TENN	+	-33.2917	U.S.	R SQAR BAR=	.996	DURBIN WAT=	2.228
RSO			(5.49)	YT3		(1.57)	PT6		(3.23)	TIME	AVER % ERR=	2.04	ESTIMATION=	OLS
TEXA	-185.98	+	.2707	TEXA	+	.3228	TEXA	+	-167.4300	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.628
RSO			(3.19)	YT3		(1.17)	PT6		(4.64)	TIME	AVER % ERR=	2.63	ESTIMATION=	OLS
UTAH	49.03	+	.4236	UTAH	+	-20.0518	U.S.				R SQAR BAR=	.988	DURBIN WAT=	2.380
RSO			(18.68)	YT3		(4.99)	TIME				AVER % ERR=	3.69	ESTIMATION=	OLS
VERM	43.96	+	.3134	VERM							R SQAR BAR=	.991	DURBIN WAT=	2.337
RSO			(46.46)	YT3							AVER % ERR=	2.66	ESTIMATION=	OLS
VIRG	-451.26	+	15.6012	VIRG	+	.3589	VIRG	+	2.5221	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.273
RSO			(1.85)	YT1		(1.18)	PT6		(.89)	CCIP	AVER % ERR=	3.60	ESTIMATION=	OLS
WASH	371.62	+	.1331	WASH	+	.2377	WASH	+	2.0258	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.897
RSO			(2.83)	YT3		(1.50)	PT6		(1.32)	CCIP	AVER % ERR=	2.74	ESTIMATION=	OLS
WVIR	-382.95	+	.3098	WVIR	+	.3515	WVIR	+	-20.6195	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.774
RSO			(3.47)	YT3		(1.63)	PT6		(3.70)	TIME	AVER % ERR=	2.92	ESTIMATION=	OLS
WISC	519.14	+	.2260	WISC							R SQAR BAR=	.993	DURBIN WAT=	1.594
RSO			(53.05)	YT3							AVER % ERR=	2.19	ESTIMATION=	OLS
WYOM	32.11	+	34.0253	WYOM	+	-4.1165	U.S.				R SQAR BAR=	.984	DURBIN WAT=	2.068
RSO			(18.91)	YT1		(3.71)	TIME				AVER % ERR=	3.99	ESTIMATION=	OLS

ESTIMATION FOR: TFI TAXES, PERSONAL TAX & NONTAX PAYMENTS : FEDERAL INCOME (37)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1950 TO 1976 IN STATES: ALAS HAWA

ALAB	.00	+	.0747	ALAB	+	.1682	ALAB	R SQAR BAR=	.991	DURBIN WAT=	1.884
TFI			(14.21)	YE		(7.20)	YET	AVER % ERR=	3.60	ESTIMATION=	OLS
ALAS	.00	+	.0612	ALAS	+	.3016	ALAS	R SQAR BAR=	.993	DURBIN WAT=	1.731
TFI			(4.85)	YE		(5.90)	YET	AVER % ERR=	5.67	ESTIMATION=	OLS
ARIS	.00	+	.1066	ARIS	+	.0931	ARIZ	R SQAR BAR=	.985	DURBIN WAT=	1.108
TFI			(10.75)	YE		(2.18)	YET	AVER % ERR=	5.63	ESTIMATION=	OLS
ARKA	.00	+	.0706	ARKA	+	.1473	ARKA	R SQAR BAR=	.976	DURBIN WAT=	1.643
TFI			(7.97)	YE		(3.80)	YET	AVER % ERR=	6.42	ESTIMATION=	OLS
CALF	.00	+	.1320	CALF	+	-.0120	CALF	R SQAR BAR=	.982	DURBIN WAT=	1.993
TFI			(18.69)	YE		(.38)	YET	AVER % ERR=	4.44	ESTIMATION=	OLS
COLO	.00	+	.1101	COLO	+	.0994	COLO	R SQAR BAR=	.987	DURBIN WAT=	1.683
TFI			(13.07)	YE		(2.72)	YET	AVER % ERR=	5.02	ESTIMATION=	OLS
CONN	.00	+	.1553	CONN	+	.0408	CONN	R SQAR BAR=	.956	DURBIN WAT=	1.061
TFI			(12.01)	YE		(.69)	YET	AVER % ERR=	6.19	ESTIMATION=	OLS
DELA	.00	+	.2006	DELA	+	-.2529	DELA	R SQAR BAR=	.982	DURBIN WAT=	2.026
TFI			(30.57)	YE		(8.62)	YET	AVER % ERR=	3.47	ESTIMATION=	OLS
D.C.	.00	+	.0928	D.C.	+	-.1116	D.C.	R SQAR BAR=	.951	DURBIN WAT=	.702
TFI			(20.08)	YE		(5.35)	YET	AVER % ERR=	6.03	ESTIMATION=	OLS
FLOR	.00	+	.1047	FLOR	+	.1971	FLOR	R SQAR BAR=	.984	DURBIN WAT=	1.089
TFI			(7.95)	YE		(3.48)	YET	AVER % ERR=	6.77	ESTIMATION=	OLS
GEOR	.00	+	.0919	GEOR	+	.1045	GEOR	R SQAR BAR=	.978	DURBIN WAT=	1.364
TFI			(9.81)	YE		(2.54)	YET	AVER % ERR=	6.22	ESTIMATION=	OLS
HAWA	.00	+	.1122	HAWA	+	.1094	HAWA	R SQAR BAR=	.976	DURBIN WAT=	1.500
TFI			(8.49)	YE		(1.91)	YET	AVER % ERR=	6.39	ESTIMATION=	OLS
IDAH	.00	+	.0836	IDAH	+	.1086	IDAH	R SQAR BAR=	.990	DURBIN WAT=	1.580
TFI			(15.37)	YE		(4.55)	YET	AVER % ERR=	4.63	ESTIMATION=	OLS
ILLI	.00	+	.1328	ILLI	+	.0441	ILLI	R SQAR BAR=	.975	DURBIN WAT=	1.533
TFI			(16.63)	YE		(1.21)	YET	AVER % ERR=	4.53	ESTIMATION=	OLS
INDI	.00	+	.1032	INDI	+	.1024	INDI	R SQAR BAR=	.977	DURBIN WAT=	2.149
TFI			(13.35)	YE		(2.93)	YET	AVER % ERR=	5.41	ESTIMATION=	OLS
IOWA	.00	+	.0845	IOWA	+	.1517	IOWA	R SQAR BAR=	.967	DURBIN WAT=	2.697
TFI			(8.90)	YE		(3.56)	YET	AVER % ERR=	7.02	ESTIMATION=	OLS
KANS	.00	+	.0896	KANS	+	.1931	KANS	R SQAR BAR=	.983	DURBIN WAT=	1.796
TFI			(12.02)	YE		(5.77)	YET	AVER % ERR=	5.48	ESTIMATION=	OLS

ESTIMATION FOR: TFI TAXES, PERSONAL TAX & NONTAX PAYMENTS : FEDERAL INCOME (37)

KENT	.00	+	.0837	KENT	+	.1608	KENT	R SQAR BAR=	.976	DURBIN WAT=	2.488
TFI			(9.42)	YE		(4.09)	YET	AVER % ERR=	6.21	ESTIMATION=	OLS
LOUS	.00	+	.0906	LOUS	+	.1328	LOUS	R SQAR BAR=	.987	DURBIN WAT=	2.275
TFI			(13.92)	YE		(4.60)	YET	AVER % ERR=	4.38	ESTIMATION=	OLS
MAIN	.00	+	.0867	MAIN	+	.1354	MAIN	R SQAR BAR=	.976	DURBIN WAT=	1.253
TFI			(12.76)	YE		(4.37)	YET	AVER % ERR=	5.12	ESTIMATION=	OLS
MARY	.00	+	.1548	MARY	+	.0617	MARY	R SQAR BAR=	.983	DURBIN WAT=	1.963
TFI			(14.53)	YE		(1.31)	YET	AVER % ERR=	5.04	ESTIMATION=	OLS
MASS	.00	+	.1309	MASS	+	.0275	MASS	R SQAR BAR=	.966	DURBIN WAT=	1.035
TFI			(14.91)	YE		(.68)	YET	AVER % ERR=	5.27	ESTIMATION=	OLS
MICH	.00	+	.1304	MICH	+	-.0051	MICH	R SQAR BAR=	.978	DURBIN WAT=	1.429
TFI			(17.30)	YE		(.15)	YET	AVER % ERR=	4.59	ESTIMATION=	OLS
MINN	.00	+	.1036	MINN	+	.0567	MINN	R SQAR BAR=	.973	DURBIN WAT=	2.071
TFI			(12.05)	YE		(1.48)	YET	AVER % ERR=	5.84	ESTIMATION=	OLS
MISS	.00	+	.0499	MISS	+	.2130	MISS	R SQAR BAR=	.986	DURBIN WAT=	2.901
TFI			(7.68)	YE		(7.42)	YET	AVER % ERR=	5.42	ESTIMATION=	OLS
MISR	.00	+	.1100	MISR	+	.0513	MISR	R SQAR BAR=	.976	DURBIN WAT=	2.184
TFI			(15.45)	YE		(1.59)	YET	AVER % ERR=	4.97	ESTIMATION=	OLS
MONT	.00	+	.0838	MONT	+	.1297	MONT	R SQAR BAR=	.965	DURBIN WAT=	1.969
TFI			(10.06)	YE		(3.44)	YET	AVER % ERR=	7.32	ESTIMATION=	OLS
NEBR	.00	+	.0890	NEBR	+	.1434	NEBR	R SQAR BAR=	.970	DURBIN WAT=	2.631
TFI			(9.55)	YE		(3.44)	YET	AVER % ERR=	6.88	ESTIMATION=	OLS
NEVA	.00	+	.1380	NEVA	+	.0144	NEVA	R SQAR BAR=	.970	DURBIN WAT=	1.514
TFI			(9.23)	YE		(.22)	YET	AVER % ERR=	7.01	ESTIMATION=	OLS
NHAM	.00	+	.1107	NHAM	+	.1697	NHAM	R SQAR BAR=	.985	DURBIN WAT=	2.082
TFI			(12.68)	YE		(4.37)	YET	AVER % ERR=	5.02	ESTIMATION=	OLS
NJER	.00	+	.1316	NJER	+	.1203	NJER	R SQAR BAR=	.979	DURBIN WAT=	1.557
TFI			(14.45)	YE		(2.91)	YET	AVER % ERR=	4.78	ESTIMATION=	OLS
NMEX	.00	+	.0863	NMEX	+	.1339	NMEX	R SQAR BAR=	.978	DURBIN WAT=	1.640
TFI			(11.92)	YE		(4.13)	YET	AVER % ERR=	5.69	ESTIMATION=	OLS
NYOR	.00	+	.1440	NYOR	+	-.0526	NYOR	R SQAR BAR=	.959	DURBIN WAT=	1.153
TFI			(18.89)	YE		(1.49)	YET	AVER % ERR=	5.18	ESTIMATION=	OLS
NCAR	.00	+	.0760	NCAR	+	.1490	NCAR	R SQAR BAR=	.975	DURBIN WAT=	1.568
TFI			(7.92)	YE		(3.52)	YET	AVER % ERR=	6.92	ESTIMATION=	OLS

ESTIMATION FOR: TFI TAXES, PERSONAL TAX & NONTAX PAYMENTS : FEDERAL INCOME (37)

NDAK	.00	+	.0473	NDAK	+	.2552	NDAK	R SQAR BAR=	.915	DURBIN WAT=	1.248
TFI			(2.72)	YE		(3.33)	YET	AVER % ERR=	11.75	ESTIMATION=	OLS
OHIO	.00	+	.1222	OHIO	+	.0379	OHIO	R SQAR BAR=	.978	DURBIN WAT=	1.417
TFI			(17.82)	YE		(1.21)	YET	AVER % ERR=	4.29	ESTIMATION=	OLS
OKLA	.00	+	.0942	OKLA	+	.1286	OKLA	R SQAR BAR=	.978	DURBIN WAT=	2.483
TFI			(11.22)	YE		(3.44)	YET	AVER % ERR=	5.52	ESTIMATION=	OLS
OREG	.00	+	.1123	OREG	+	.0645	OREG	R SQAR BAR=	.980	DURBIN WAT=	1.901
TFI			(13.96)	YE		(1.81)	YET	AVER % ERR=	5.21	ESTIMATION=	OLS
PENN	.00	+	.1236	PENN	+	.0353	PENN	R SQAR BAR=	.974	DURBIN WAT=	1.684
TFI			(17.24)	YE		(1.08)	YET	AVER % ERR=	4.73	ESTIMATION=	OLS
RHIS	.00	+	.1280	RHIS	+	.0401	RHIS	R SQAR BAR=	.975	DURBIN WAT=	1.776
TFI			(17.29)	YE		(1.18)	YET	AVER % ERR=	4.54	ESTIMATION=	OLS
SCAR	.00	+	.0650	SCAR	+	.2050	SCAR	R SQAR BAR=	.984	DURBIN WAT=	1.601
TFI			(7.93)	YE		(5.71)	YET	AVER % ERR=	5.65	ESTIMATION=	OLS
SDAK	.00	+	.0576	SDAK	+	.1977	SDAK	R SQAR BAR=	.931	DURBIN WAT=	1.324
TFI			(4.83)	YE		(3.65)	YET	AVER % ERR=	10.29	ESTIMATION=	OLS
TENN	.00	+	.0901	TENN	+	.1265	TENN	R SQAR BAR=	.986	DURBIN WAT=	1.017
TFI			(12.49)	YE		(3.98)	YET	AVER % ERR=	5.25	ESTIMATION=	OLS
TEXA	.00	+	.0962	TEXA	+	.1702	TEXA	R SQAR BAR=	.990	DURBIN WAT=	1.917
TFI			(13.41)	YE		(5.42)	YET	AVER % ERR=	4.35	ESTIMATION=	OLS
UTAH	.00	+	.0940	UTAH	+	.0732	UTAH	R SQAR BAR=	.982	DURBIN WAT=	1.457
TFI			(13.85)	YE		(2.44)	YET	AVER % ERR=	5.11	ESTIMATION=	OLS
VERM	.00	+	.0875	VERM	+	.1230	VERM	R SQAR BAR=	.970	DURBIN WAT=	1.828
TFI			(9.57)	YE		(3.00)	YET	AVER % ERR=	6.48	ESTIMATION=	OLS
VIRG	.00	+	.0991	VIRG	+	.2110	VIRG	R SQAR BAR=	.996	DURBIN WAT=	1.688
TFI			(10.40)	YE		(5.04)	YET	AVER % ERR=	4.99	ESTIMATION=	OLS
WASH	.00	+	.1055	WASH	+	.1501	WASH	R SQAR BAR=	.987	DURBIN WAT=	1.402
TFI			(14.97)	YE		(4.75)	YET	AVER % ERR=	4.38	ESTIMATION=	OLS
WVIR	.00	+	.0861	WVIR	+	.1617	WVIR	R SQAR BAR=	.982	DURBIN WAT=	1.453
TFI			(13.39)	YE		(5.55)	YET	AVER % ERR=	4.80	ESTIMATION=	OLS
WISC	.00	+	.1138	WISC	+	.0366	WISC	R SQAR BAR=	.976	DURBIN WAT=	1.657
TFI			(15.42)	YE		(1.10)	YET	AVER % ERR=	4.96	ESTIMATION=	OLS
WYOM	.00	+	.0860	WYOM	+	.2206	WYOM	R SQAR BAR=	.978	DURBIN WAT=	1.693
TFI			(8.98)	YE		(5.21)	YET	AVER % ERR=	6.49	ESTIMATION=	OLS

ESTIMATION FOR: TFO TAXES, PERSONAL TAX & NONTAX PAYMENTS : FEDERAL OTHER (38) LAG DEPENDENT VARIABLE: TFOL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1961 TO 1976 IN STATES: ALAS HAWA

ALAB	.00	+	.0082	ALAB	+	.0040	ALAB	+	.7541	ALAB		R SQAR BAR=	.975	DURBIN WAT=	1.103
TFO			(1.64)	YOIR		(.74)	P65+		(4.31)	TFOL		AVER % ERR=	5.56	ESTIMATION=	OLS
ALAS	-.52	+	.0070	ALAS	+	.1041	ALAS	+	.2591	ALAS		R SQAR BAR=	.961	DURBIN WAT=	2.217
TFO			(2.13)	YOIR		(1.36)	P65+		(.68)	TFOL		AVER % ERR=	8.88	ESTIMATION=	OLS
ARIS	3.34	+	.0049	ARIS	+	.8241	ARIZ					R SQAR BAR=	.884	DURBIN WAT=	1.337
TFO			(.86)	YOIR		(4.70)	TFOL					AVER % ERR=	13.00	ESTIMATION=	OLS
ARKA	.00	+	.0128	ARKA	+	.0050	ARKA	+	.4451	ARKA		R SQAR BAR=	.976	DURBIN WAT=	2.087
TFO			(2.32)	YOIR		(1.26)	P65+		(1.58)	TFOL		AVER % ERR=	5.81	ESTIMATION=	OLS
CALF	.00	+	.0091	CALF	+	.0314	CALF	+	.7216	CALF		R SQAR BAR=	.952	DURBIN WAT=	1.558
TFO			(1.61)	YOIR		(1.43)	P65+		(4.66)	TFOL		AVER % ERR=	6.35	ESTIMATION=	OLS
COLO	-40.93	+	.0111	COLO	+	.3540	COLO					R SQAR BAR=	.918	DURBIN WAT=	.802
TFO			(2.55)	YOIR		(3.18)	P65+					AVER % ERR=	9.51	ESTIMATION=	OLS
CONN	.00	+	.0001	CONN	+	.0992	CONN	+	.7889	CONN		R SQAR BAR=	.823	DURBIN WAT=	1.346
TFO			(.02)	YOIR		(1.94)	P65+		(4.45)	TFOL		AVER % ERR=	10.08	ESTIMATION=	OLS
DELA			E X O G E N O U S												
D.C.	-13.82	+	.0226	D.C.	+	.2415	D.C.	+	.5937	D.C.		R SQAR BAR=	.912	DURBIN WAT=	1.502
TFO			(1.64)	YOIR		(1.02)	P65+		(3.35)	TFOL		AVER % ERR=	7.45	ESTIMATION=	OLS
FLOR	.00	+	.0033	FLOR	+	.0300	FLOR	+	.8595	FLOR		R SQAR BAR=	.974	DURBIN WAT=	.920
TFO			(.27)	YOIR		(1.79)	P65+		(2.72)	TFOL		AVER % ERR=	7.24	ESTIMATION=	OLS
GEOR	.00	+	.0261	GEOR	+	.0381	GEOR					R SQAR BAR=	.886	DURBIN WAT=	.443
TFO			(8.21)	YOIR		(2.37)	P65+					AVER % ERR=	14.45	ESTIMATION=	OLS
HAWA	3.94	+	.0041	HAWA	+	.6624	HAWA					R SQAR BAR=	.712	DURBIN WAT=	1.881
TFO			(.87)	YOIR		(3.13)	TFOL					AVER % ERR=	10.71	ESTIMATION=	OLS
IDAH	-1.12	+	.0226	IDAH	+	.3166	IDAH					R SQAR BAR=	.932	DURBIN WAT=	1.735
TFO			(3.01)	YOIR		(1.26)	TFOL					AVER % ERR=	11.46	ESTIMATION=	OLS
ILLI	-250.92	+	.0021	ILLI	+	.3110	ILLI	+	.6981	ILLI		R SQAR BAR=	.970	DURBIN WAT=	1.761
TFO			(.36)	YOIR		(1.98)	P65+		(3.88)	TFOL		AVER % ERR=	5.06	ESTIMATION=	OLS
INDI	-43.70	+	.0123	INDI	+	.1066	INDI	+	.5352	INDI		R SQAR BAR=	.896	DURBIN WAT=	1.470
TFO			(1.04)	YOIR		(.46)	P65+		(2.24)	TFOL		AVER % ERR=	11.97	ESTIMATION=	OLS
IOWA	-4.84	+	.0159	IOWA	+	.0031	IOWA	+	.6482	IOWA		R SQAR BAR=	.986	DURBIN WAT=	1.696
TFO			(2.37)	YOIR		(.04)	P65+		(2.91)	TFOL		AVER % ERR=	5.28	ESTIMATION=	OLS
KANS	-11.57	+	.0149	KANS	+	.0436	KANS	+	.5977	KANS		R SQAR BAR=	.984	DURBIN WAT=	1.527
TFO			(2.72)	YOIR		(.33)	P65+		(2.72)	TFOL		AVER % ERR=	4.29	ESTIMATION=	OLS

ESTIMATION FOR: TFO TAXES, PERSONAL TAX & NONTAX PAYMENTS : FEDERAL OTHER (38) LAG DEPENDENT VARIABLE: TFOL

KENT	.00	+	.0026	KENT	+	.0139	KENT	+	.8434	KENT	R SQAR BAR=	.932	DURBIN WAT=	1.978
TFO			(.50)	YDIR		(1.71)	P65+		(4.41)	TFOL	AVER % ERR=	8.27	ESTIMATION=	OLS
LOUS	.00	+	.0086	LOUS	+	.0114	LOUS	+	.6852	LOUS	R SQAR BAR=	.959	DURBIN WAT=	1.628
TFO			(1.77)	YDIR		(1.06)	P65+		(3.86)	TFOL	AVER % ERR=	7.07	ESTIMATION=	OLS
MAIN	.00	+	.0050	MAIN	+	.0283	MAIN	+	.7104	MAIN	R SQAR BAR=	.855	DURBIN WAT=	1.553
TFO			(1.05)	YDIR		(1.89)	P65+		(3.88)	TFOL	AVER % ERR=	8.49	ESTIMATION=	OLS
MARY	.00	+	.0071	MARY	+	.0441	MARY	+	.6539	MARY	R SQAR BAR=	.919	DURBIN WAT=	1.617
TFO			(1.29)	YDIR		(1.85)	P65+		(3.44)	TFOL	AVER % ERR=	7.86	ESTIMATION=	OLS
MASS	.00	+	.0241	MASS	+	.0959	MASS				R SQAR BAR=	.705	DURBIN WAT=	.429
TFO			(5.12)	YDIR		(3.77)	P65+				AVER % ERR=	13.27	ESTIMATION=	OLS
MICH	.00	+	.0053	MICH	+	.0208	MICH	+	.7258	MICH	R SQAR BAR=	.936	DURBIN WAT=	1.394
TFO			(1.34)	YDIR		(1.66)	P65+		(4.22)	TFOL	AVER % ERR=	6.93	ESTIMATION=	OLS
MINN	-101.95	+	.0229	MINN	+	.3187	MINN				R SQAR BAR=	.831	DURBIN WAT=	.912
TFO			(2.58)	YDIR		(1.57)	P65+				AVER % ERR=	13.97	ESTIMATION=	OLS
MISS	-14.68	+	.0153	MISS	+	.0830	MISS	+	.3860	MISS	R SQAR BAR=	.934	DURBIN WAT=	1.571
TFO			(1.42)	YDIR		(.76)	P65+		(1.60)	TFOL	AVER % ERR=	10.99	ESTIMATION=	OLS
MISR	.00	+	.0093	MISR	+	.0139	MISR	+	.7191	MISR	R SQAR BAR=	.930	DURBIN WAT=	1.410
TFO			(1.38)	YDIR		(1.13)	P65+		(4.11)	TFOL	AVER % ERR=	7.69	ESTIMATION=	OLS
MONT	-.24	+	.0105	MONT	+	.7190	MONT				R SQAR BAR=	.962	DURBIN WAT=	2.030
TFO			(1.66)	YDIR		(3.35)	TFOL				AVER % ERR=	7.32	ESTIMATION=	OLS
NEBR	-2.91	+	.0176	NEBR	+	.6497	NEBR				R SQAR BAR=	.971	DURBIN WAT=	1.532
TFO			(1.82)	YDIR		(2.34)	TFOL				AVER % ERR=	7.21	ESTIMATION=	OLS
NEVA	1.12	+	.0049	NEVA	+	.9103	NEVA				R SQAR BAR=	.908	DURBIN WAT=	1.566
TFO			(.54)	YDIR		(5.01)	TFOL				AVER % ERR=	13.61	ESTIMATION=	OLS
NHAM	.00	+	.0087	NHAM	+	.0329	NHAM	+	.6534	NHAM	R SQAR BAR=	.923	DURBIN WAT=	1.591
TFO			(1.59)	YDIR		(2.04)	P65+		(3.41)	TFOL	AVER % ERR=	7.29	ESTIMATION=	OLS
NJER	.00	+	.0163	NJER	+	.1201	NJER				R SQAR BAR=	.755	DURBIN WAT=	.492
TFO			(4.09)	YDIR		(4.55)	P65+				AVER % ERR=	13.23	ESTIMATION=	OLS
NMEX	.00	+	.0083	NMEX	+	.0054	NMEX	+	.7252	NMEX	R SQAR BAR=	.950	DURBIN WAT=	1.182
TFO			(2.48)	YDIR		(.34)	P65+		(4.73)	TFOL	AVER % ERR=	8.28	ESTIMATION=	OLS
NYOR	82.92	+	.0014	NYOR	+	.8594	NYOR				R SQAR BAR=	.883	DURBIN WAT=	1.549
TFO			(.27)	YDIR		(5.91)	TFOL				AVER % ERR=	7.49	ESTIMATION=	OLS
NCAR	.00	+	.0072	NCAR	+	.0279	NCAR	+	.6649	NCAR	R SQAR BAR=	.902	DURBIN WAT=	2.058
TFO			(1.12)	YDIR		(1.62)	P65+		(3.14)	TFOL	AVER % ERR=	13.04	ESTIMATION=	OLS

ESTIMATION FOR: TFO TAXES. PERSONAL TAX & NONTAX PAYMENTS : FEDERAL OTHER (38) LAG DEPENDENT VARIABLE: TFOL

NDAK	-2.43	+	.0229	NDAK	+	.5037	NDAK				R SQAR BAR=	.916	DURBIN WAT=	1.660
TFO			(3.08)	YDIR		(2.30)	TFOL				AVER % ERR=	17.36	ESTIMATION=	OLS
OHIO	.00	+	.0027	OHIO	+	.0224	OHIO	+	.8399	OHIO	R SQAR BAR=	.938	DURBIN WAT=	1.527
TFO			(.54)	YDIR		(1.86)	P65+		(5.18)	TFOL	AVER % ERR=	6.15	ESTIMATION=	OLS
OKLA	.00	+	.0121	OKLA	+	.0055	OKLA	+	.6862	OKLA	R SQAR BAR=	.972	DURBIN WAT=	1.732
TFO			(2.53)	YDIR		(.69)	P65+		(4.93)	TFOL	AVER % ERR=	6.68	ESTIMATION=	OLS
OREG	-7.66	+	.0110	OREG	+	.0423	OREG	+	.6174	OREG	R SQAR BAR=	.969	DURBIN WAT=	1.480
TFO			(1.87)	YDIR		(.60)	P65+		(3.11)	TFOL	AVER % ERR=	7.17	ESTIMATION=	OLS
PENN	.00	+	.0004	PENN	+	.0527	PENN	+	.7318	PENN	R SQAR BAR=	.853	DURBIN WAT=	1.388
TFO			(.11)	YDIR		(2.63)	P65+		(4.90)	TFOL	AVER % ERR=	7.40	ESTIMATION=	OLS
RHIS	.00	+	.0051	RHIS	+	.0987	RHIS	+	.5079	RHIS	R SQAR BAR=	.686	DURBIN WAT=	1.407
TFO			(.91)	YDIR		(2.60)	P65+		(2.77)	TFOL	AVER % ERR=	11.00	ESTIMATION=	OLS
SCAR	.00	+	.0089	SCAR	+	.0152	SCAR	+	.6201	SCAR	R SQAR BAR=	.965	DURBIN WAT=	1.551
TFO			(2.44)	YDIR		(1.58)	P65+		(3.21)	TFOL	AVER % ERR=	7.19	ESTIMATION=	OLS
SDAK	-10.84	+	.0085	SDAK	+	.1558	SDAK	+	.5432	SDAK	R SQAR BAR=	.823	DURBIN WAT=	1.620
TFO			(.94)	YDIR		(1.03)	P65+		(2.25)	TFOL	AVER % ERR=	17.89	ESTIMATION=	OLS
TENN	.00	+	.0072	TENN	+	.0110	TENN	+	.7362	TENN	R SQAR BAR=	.948	DURBIN WAT=	1.353
TFO			(1.14)	YDIR		(1.27)	P65+		(3.42)	TFOL	AVER % ERR=	7.66	ESTIMATION=	OLS
TEXA	-108.18	+	.0090	TEXA	+	.1968	TEXA	+	.5380	TEXA	R SQAR BAR=	.973	DURBIN WAT=	1.445
TFO			(1.23)	YDIR		(1.67)	P65+		(2.31)	TFOL	AVER % ERR=	6.10	ESTIMATION=	OLS
UTAH	-6.64	+	.0040	UTAH	+	.1522	UTAH	+	.2925	UTAH	R SQAR BAR=	.949	DURBIN WAT=	1.510
TFO			(1.20)	YDIR		(2.07)	P65+		(1.33)	TFOL	AVER % ERR=	8.53	ESTIMATION=	OLS
VERM	.00	+	.0058	VERM	+	.0386	VERM	+	.6170	VERM	R SQAR BAR=	.575	DURBIN WAT=	1.681
TFO			(.59)	YDIR		(1.32)	P65+		(2.65)	TFOL	AVER % ERR=	20.00	ESTIMATION=	OLS
VIRG	.00	+	.0026	VIRG	+	.0201	VIRG	+	.8751	VIRG	R SQAR BAR=	.954	DURBIN WAT=	1.471
TFO			(.49)	YDIR		(1.54)	P65+		(4.83)	TFOL	AVER % ERR=	6.74	ESTIMATION=	OLS
WASH	.00	+	.0072	WASH	+	.0145	WASH	+	.7376	WASH	R SQAR BAR=	.963	DURBIN WAT=	1.678
TFO			(1.66)	YDIR		(1.52)	P65+		(4.54)	TFOL	AVER % ERR=	6.13	ESTIMATION=	OLS
WVIR	-18.44	+	.0049	WVIR	+	.1344	WVIR	+	.5070	WVIR	R SQAR BAR=	.934	DURBIN WAT=	1.546
TFO			(1.12)	YDIR		(1.99)	P65+		(2.73)	TFOL	AVER % ERR=	6.88	ESTIMATION=	OLS
WISC	-113.91	+	.0072	WISC	+	.3489	WISC				R SQAR BAR=	.909	DURBIN WAT=	.505
TFO			(1.89)	YDIR		(4.16)	P65+				AVER % ERR=	10.08	ESTIMATION=	OLS
WYOM	-4.82	+	.0129	WYOM	+	.2135	WYOM	+	.4686	WYOM	R SQAR BAR=	.970	DURBIN WAT=	1.274
TFO			(2.89)	YDIR		(1.83)	P65+		(2.57)	TFOL	AVER % ERR=	6.94	ESTIMATION=	OLS

ESTIMATION FOR: TSI TAXES, PERSONAL TAX & NONTAX PAYMENTS : STATE INCOME (39)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1961 TO 1976 IN STATES: ALAS HAWA INDI WVIR
AND 1970 TO 1976 IN STATES: ILLI MAIN MASS NEBR PENN RHIS

ALAB	.00	+	.0214	ALAB	+	-.8529	ALAB					R SQAR BAR=	.987	DURBIN WAT=	1.703
TSI			(36.30)	YE		(13.87)	YT4R					AVER % ERR=	7.07	ESTIMATION=	OLS
ALAS	.00	+	.1063	ALAS	+	-.2217	ALAS	+	-.2221	ALAS	+ -1.0137 U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.691
TSI			(2.69)	YE		(1.72)	YET		(1.74)	YT4R	(3.91) TIME	AVER % ERR=	4.65	ESTIMATION=	OLS
ARIS	.00	+	.0108	ARIS	+	.0487	ARIZ	+	-2.1820	U.S.		R SQAR BAR=	.982	DURBIN WAT=	2.466
TSI			(1.35)	YE		(2.50)	YET		(2.08)	TIME		AVER % ERR=	8.71	ESTIMATION=	OLS
ARKA	.00	+	.0088	ARKA	+	.0681	ARKA	+	-2.2463	U.S.		R SQAR BAR=	.988	DURBIN WAT=	2.062
TSI			(1.93)	YE		(6.90)	YET		(3.76)	TIME		AVER % ERR=	7.47	ESTIMATION=	OLS
CALF	-746.96	+	.0539	CALF	+	-85.5490	U.S.					R SQAR BAR=	.957	DURBIN WAT=	1.904
TSI			(7.85)	YE		(2.91)	TIME					AVER % ERR=	10.68	ESTIMATION=	OLS
COLO	.00	+	.0093	COLO	+	.0786	COLO	+	-1.8213	U.S.		R SQAR BAR=	.994	DURBIN WAT=	1.200
TSI			(1.98)	YE		(7.13)	YET		(2.00)	TIME		AVER % ERR=	4.89	ESTIMATION=	OLS
CONN			E X O G E N O U S												
DELA	.00	+	.0105	DELA	+	.1269	DELA					R SQAR BAR=	.985	DURBIN WAT=	1.136
TSI			(3.95)	YE		(10.68)	YET					AVER % ERR=	6.88	ESTIMATION=	OLS
D.C.			E X O G E N O U S												
FLOR			E X O G E N O U S												
GEOR	.00	+	.0112	GEOR	+	.0634	GEOR	+	-6.0719	U.S.		R SQAR BAR=	.996	DURBIN WAT=	1.822
TSI			(2.88)	YE		(7.89)	YET		(4.17)	TIME		AVER % ERR=	4.47	ESTIMATION=	OLS
HAWA	.00	+	.0497	HAWA	+	-.3724	HAWA					R SQAR BAR=	.986	DURBIN WAT=	1.126
TSI			(32.11)	YE		(8.89)	YT4R					AVER % ERR=	5.27	ESTIMATION=	OLS
IDAH	50.47	+	.0341	IDAH	+	-.8217	IDAH					R SQAR BAR=	.975	DURBIN WAT=	1.739
TSI			(14.49)	YE		(2.15)	YT4R					AVER % ERR=	8.02	ESTIMATION=	C-O
ILLI	.00	+	.0123	ILLI	+	.0289	ILLI					R SQAR BAR=	.990	DURBIN WAT=	2.895
TSI			(6.64)	YE		(3.85)	YET					AVER % ERR=	1.51	ESTIMATION=	OLS
INDI	.00	+	.0226	INDI	+	-1.6597	INDI					R SQAR BAR=	.949	DURBIN WAT=	1.155
TSI			(17.16)	YE		(7.38)	YT4R					AVER % ERR=	11.59	ESTIMATION=	OLS
IOWA	.00	+	.0149	IOWA	+	.1123	IOWA	+	-7.9558	U.S.		R SQAR BAR=	.969	DURBIN WAT=	2.057
TSI			(1.94)	YE		(7.87)	YET		(3.35)	TIME		AVER % ERR=	11.06	ESTIMATION=	OLS
KANS	.00	+	.0236	KANS	+	-.6048	KANS					R SQAR BAR=	.933	DURBIN WAT=	1.464
TSI			(16.26)	YE		(6.90)	YT4R					AVER % ERR=	12.47	ESTIMATION=	OLS

ESTIMATION FOR: TSI TAXES, PERSONAL TAX & NONTAX PAYMENTS : STATE INCOME (39)

KENT	.00	+	.0187	KENT	+	.0414	KENT	+	-4.2318	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.579
TSI			(5.69)	YE		(6.31)	YET		(4.97)	TIME	AVER % ERR=	4.52	ESTIMATION=	OLS
LOUS	.00	+	.0113	LOUS	+	-.4481	LOUS				R SQAR BAR=	.908	DURBIN WAT=	1.314
TSI			(13.68)	YE		(5.18)	YT4R				AVER % ERR=	17.64	ESTIMATION=	OLS
MAIN	.00	+	.0204	MAIN	+	-.3348	MAIN				R SQAR BAR=	.979	DURBIN WAT=	1.006
TSI			(16.60)	YE		(7.03)	YT4R				AVER % ERR=	3.37	ESTIMATION=	OLS
MARY	-188.57	+	.0482	MARY							R SQAR BAR=	.990	DURBIN WAT=	1.545
TSI			(22.55)	YE							AVER % ERR=	5.26	ESTIMATION=	C-O
MASS	.00	+	.0331	MASS	+	.1730	MASS	+	-35.9181	U.S.	R SQAR BAR=	.984	DURBIN WAT=	2.073
TSI			(3.37)	YE		(13.65)	YET		(4.56)	TIME	AVER % ERR=	7.00	ESTIMATION=	OLS
MICH	.00	+	.1503	MICH	+	-.3102	MICH	+	-19.3067	MICH	R SQAR BAR=	.862	DURBIN WAT=	1.681
TSI			(1.35)	YE		(1.02)	YET		(1.37)	YT4R	AVER % ERR=	7.09	ESTIMATION=	OLS
MINN	.00	+	.0112	MINN	+	.1770	MINN	+	-7.7674	U.S.	R SQAR BAR=	.986	DURBIN WAT=	2.088
TSI			(1.02)	YE		(8.81)	YET		(1.80)	TIME	AVER % ERR=	6.49	ESTIMATION=	OLS
MISS	.00	+	.0137	MISS	+	.0424	MISS	+	-3.2560	U.S.	R SQAR BAR=	.976	DURBIN WAT=	.984
TSI			(2.65)	YE		(4.19)	YET		(4.25)	TIME	AVER % ERR=	10.78	ESTIMATION=	OLS
MISR	.00	+	.0227	MISR	+	-1.3886	MISR				R SQAR BAR=	.974	DURBIN WAT=	1.122
TSI			(27.72)	YE		(12.20)	YT4R				AVER % ERR=	8.73	ESTIMATION=	OLS
MONT	.00	+	.0434	MONT	+	-.4172	MONT				R SQAR BAR=	.980	DURBIN WAT=	1.294
TSI			(32.12)	YE		(15.26)	YT4R				AVER % ERR=	8.95	ESTIMATION=	OLS
NEBR	3.70	+	.0119	NEBR							R SQAR BAR=	.799	DURBIN WAT=	2.156
TSI			(4.99)	YE							AVER % ERR=	6.66	ESTIMATION=	OLS
NEVA			E X O G E N O U S											
NHAM	.00	+	.0132	NHAM	+	-.0322	NHAM	+	-.0837	NHAM	R SQAR BAR=	.802	DURBIN WAT=	.649
TSI			(1.97)	YE		(1.57)	YET		(1.80)	YT4R	AVER % ERR=	22.28	ESTIMATION=	OLS
NJER	-36.38	+	.0024	NJER							R SQAR BAR=	.960	DURBIN WAT=	1.513
TSI			(4.99)	YE							AVER % ERR=	9.22	ESTIMATION=	C-O
NMEX	.00	+	.0618	NMEX	+	-.1226	NMEX	+	-.7631	NMEX	R SQAR BAR=	.960	DURBIN WAT=	1.086
TSI			(1.97)	YE		(1.31)	YET		(2.06)	YT4R	AVER % ERR=	13.78	ESTIMATION=	OLS
NYOR	.00	+	.0307	NYOR	+	.0763	NYOR	+	-6.4580	NYOR	R SQAR BAR=	.991	DURBIN WAT=	2.149
TSI			(1.33)	YE		(1.16)	YET		(1.22)	YT4R	AVER % ERR=	4.08	ESTIMATION=	OLS
NCAR	-54.93	+	.0419	NCAR	+	-10.4823	U.S.				R SQAR BAR=	.998	DURBIN WAT=	2.184
TSI			(15.95)	YE		(3.64)	TIME				AVER % ERR=	2.14	ESTIMATION=	C-O

ESTIMATION FOR: TSI TAXES, PERSONAL TAX & NONTAX PAYMENTS : STATE INCOME (39)

NDAK	39.34	+	.0327	NDAK	+	-.8246	NDAK						R SQAR BAR=	.902	DURBIN WAT= 1.247
TSI			(10.84)	YE		(4.18)	YT4R						AVER % ERR=	22.26	ESTIMATION= OLS
OHIO			E X O G E N O U S												
OKLA	.00	+	.0131	OKLA	+	.0587	OKLA	+	-4.6449	U.S.			R SQAR BAR=	.961	DURBIN WAT= 1.522
TSI			(2.27)	YE		(5.21)	YET		(3.53)	TIME			AVER % ERR=	14.77	ESTIMATION= OLS
OREG	.00	+	.0345	OREG	+	.0759	OREG	+	-4.4105	U.S.			R SQAR BAR=	.991	DURBIN WAT= 1.560
TSI			(5.42)	YE		(6.05)	YET		(3.24)	TIME			AVER % ERR=	4.47	ESTIMATION= OLS
PENN	185.23	+	.0173	PENN									R SQAR BAR=	.769	DURBIN WAT= 1.397
TSI			(.96)	YE									AVER % ERR=	8.84	ESTIMATION= C-O
RHIS	.00	+	.0477	RHIS	+	-.9720	RHIS						R SQAR BAR=	.653	DURBIN WAT= 1.853
TSI			(3.54)	YE		(2.07)	YT4R						AVER % ERR=	13.59	ESTIMATION= OLS
SCAR	131.58	+	.0329	SCAR	+	-3.0624	SCAR						R SQAR BAR=	.992	DURBIN WAT= 2.042
TSI			(19.64)	YE		(3.91)	YT4R						AVER % ERR=	4.54	ESTIMATION= OLS
SDAK			E X O G E N O U S												
TENN	31.07	+	.0017	TENN	+	-.4568	TENN						R SQAR BAR=	.988	DURBIN WAT= 1.206
TSI			(9.87)	YE		(2.78)	YT4R						AVER % ERR=	3.82	ESTIMATION= C-O
TEXA			E X O G E N O U S												
UTAH	.00	+	.0336	UTAH	+	-.3980	UTAH						R SQAR BAR=	.980	DURBIN WAT= 1.295
TSI			(32.00)	YE		(11.96)	YT4R						AVER % ERR=	8.78	ESTIMATION= OLS
VERM	.00	+	.1290	VERM	+	-.2770	VERM	+	-.5922	VERM	+	.3063 U.S.	R SQAR BAR=	.988	DURBIN WAT= 1.771
TSI			(6.15)	YE		(4.69)	YET		(6.38)	YT4R		(1.05) TIME	AVER % ERR=	4.36	ESTIMATION= OLS
VIRG	.00	+	.0116	VIRG	+	.0734	VIRG	+	-2.2992	U.S.			R SQAR BAR=	.990	DURBIN WAT= 2.442
TSI			(1.71)	YE		(5.26)	YET		(.87)	TIME			AVER % ERR=	4.45	ESTIMATION= OLS
WASH			E X O G E N O U S												
WVIR	.00	+	.0306	WVIR	+	-.9411	WVIR						R SQAR BAR=	.956	DURBIN WAT= .924
TSI			(17.11)	YE		(9.16)	YT4R						AVER % ERR=	12.85	ESTIMATION= OLS
WISC	.00	+	.0595	WISC	+	-2.7066	WISC						R SQAR BAR=	.994	DURBIN WAT= 1.936
TSI			(58.52)	YE		(20.95)	YT4R						AVER % ERR=	4.23	ESTIMATION= OLS
WYOM			E X O G E N O U S												

ESTIMATION FOR: TSO TAXES. PERSONAL TAX & NONTAX PAYMENTS : STATE OTHER (40) LAG DEPENDENT VARIABLE: TSOL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1961 TO 1976 IN STATES: ALAS HAWA

ALAB	-21.38	+	.0067	ALAB	+	.5752	ALAB					R SQAR BAR=	.995	DURBIN WAT=	1.391
TSO			(2.45)	Y		(2.63)	TSOL					AVER % ERR=	3.98	ESTIMATION=	OLS
ALAS	.00	+	.0013	ALAS	+	.0061	ALAS	+	.7356	ALAS		R SQAR BAR=	.955	DURBIN WAT=	1.914
TSO			(1.39)	Y		(1.67)	P		(3.46)	TSOL		AVER % ERR=	6.40	ESTIMATION=	OLS
ARIS	-72.03	+	.0034	ARIS	+	.0572	ARIS					R SQAR BAR=	.994	DURBIN WAT=	1.387
TSO			(1.89)	Y		(2.61)	P					AVER % ERR=	3.73	ESTIMATION=	C-O
ARKA	-11.54	+	.0035	ARKA	+	1.6804	U.S.					R SQAR BAR=	.993	DURBIN WAT=	1.588
TSO			(3.48)	Y		(3.05)	TIME					AVER % ERR=	3.09	ESTIMATION=	C-O
CALF	-963.40	+	.0083	CALF	+	.0472	CALF					R SQAR BAR=	.993	DURBIN WAT=	1.650
TSO			(6.24)	Y		(1.49)	P					AVER % ERR=	4.08	ESTIMATION=	C-O
COLO	-21.43	+	.0108	COLO	+	.4086	COLO					R SQAR BAR=	.997	DURBIN WAT=	1.604
TSO			(3.88)	Y		(2.21)	TSOL					AVER % ERR=	2.96	ESTIMATION=	OLS
CONN	-168.12	+	.0059	CONN	+	.0632	CONN					R SQAR BAR=	.986	DURBIN WAT=	1.093
TSO			(5.12)	Y		(1.87)	P					AVER % ERR=	4.10	ESTIMATION=	C-O
DELA	-20.61	+	.0029	DELA	+	.0459	DELA	+	.6774	DELA		R SQAR BAR=	.986	DURBIN WAT=	1.367
TSO			(1.71)	Y		(2.21)	P		(4.48)	TSOL		AVER % ERR=	5.14	ESTIMATION=	OLS
D.C.			E X O G E N O U S												
FLOR	-68.08	+	.0019	FLOR	+	.0183	FLOR	+	.3966	FLOR		R SQAR BAR=	.986	DURBIN WAT=	1.109
TSO			(1.79)	Y		(2.14)	P		(1.46)	TSOL		AVER % ERR=	5.25	ESTIMATION=	OLS
GEOR	-268.07	+	.0030	GEOR	+	.0671	GEOR					R SQAR BAR=	.991	DURBIN WAT=	1.082
TSO			(2.14)	Y		(1.84)	P					AVER % ERR=	4.48	ESTIMATION=	C-O
HAWA	-4.27	+	.0052	HAWA	+	.6851	HAWA					R SQAR BAR=	.983	DURBIN WAT=	.927
TSO			(2.21)	Y		(3.81)	TSOL					AVER % ERR=	5.62	ESTIMATION=	OLS
IDAH	-1.48	+	.0043	IDAH	+	.5699	IDAH					R SQAR BAR=	.977	DURBIN WAT=	2.392
TSO			(2.56)	Y		(2.75)	TSOL					AVER % ERR=	7.22	ESTIMATION=	OLS
ILLI	-7.40	+	.0015	ILLI	+	.7846	ILLI					R SQAR BAR=	.988	DURBIN WAT=	1.666
TSO			(1.26)	Y		(4.05)	TSOL					AVER % ERR=	3.45	ESTIMATION=	C-O
INDI	-141.33	+	.0041	INDI	+	.0274	INDI	+	.6044	INDI		R SQAR BAR=	.994	DURBIN WAT=	1.633
TSO			(2.32)	Y		(1.81)	P		(3.31)	TSOL		AVER % ERR=	3.04	ESTIMATION=	OLS
IOWA	-207.16	+	.0059	IOWA	+	.0731	IOWA	+	.5490	IOWA		R SQAR BAR=	.996	DURBIN WAT=	1.998
TSO			(3.57)	Y		(1.86)	P		(3.79)	TSOL		AVER % ERR=	2.34	ESTIMATION=	OLS
KANS	-29.00	+	.0055	KANS	+	2.7266	U.S.					R SQAR BAR=	.994	DURBIN WAT=	1.655
TSO			(5.46)	Y		(4.30)	TIME					AVER % ERR=	2.50	ESTIMATION=	C-O

KENT	-288.01	+	.0085	KENT	+	.0874	KENT					R SQAR BAR=	.996	DURBIN WAT=	1.611
TSO			(7.08)	Y		(2.12)	P					AVER % ERR=	3.67	ESTIMATION=	C-O
LOUS	-40.07	+	.0037	LOUS	+	3.1671	U.S.					R SQAR BAR=	.889	DURBIN WAT=	.523
TSO			(1.96)	Y		(2.18)	TIME					AVER % ERR=	20.22	ESTIMATION=	OLS
MAIN	-46.28	+	.0103	MAIN	+	.0437	MAIN					R SQAR BAR=	.991	DURBIN WAT=	1.913
TSO			(17.25)	Y		(2.11)	P					AVER % ERR=	3.53	ESTIMATION=	OLS
MARY	-28.40	+	.0128	MARY	+	-3.2706	U.S.					R SQAR BAR=	.996	DURBIN WAT=	1.986
TSO			(25.19)	Y		(5.57)	TIME					AVER % ERR=	2.93	ESTIMATION=	OLS
MASS	-142.65	+	.0021	MASS	+	.0290	MASS	+	.4676	MASS		R SQAR BAR=	.970	DURBIN WAT=	2.070
TSO			(1.77)	Y		(1.99)	P		(2.06)	TSOL		AVER % ERR=	5.07	ESTIMATION=	OLS
MICH	-354.89	+	.0009	MICH	+	.0466	MICH	+	.8079	MICH		R SQAR BAR=	.999	DURBIN WAT=	1.931
TSO			(1.11)	Y		(3.81)	P		(8.70)	TSOL		AVER % ERR=	1.31	ESTIMATION=	C-O
MINN	-17.84	+	.0064	MINN	+	.6344	MINN					R SQAR BAR=	.998	DURBIN WAT=	2.402
TSO			(4.51)	Y		(6.00)	TSOL					AVER % ERR=	1.68	ESTIMATION=	OLS
MISS	-51.60	+	.0074	MISS	+	.0196	MISS	+	.8512	U.S.		R SQAR BAR=	.995	DURBIN WAT=	1.250
TSO			(14.99)	Y		(1.73)	P		(3.45)	TIME		AVER % ERR=	2.60	ESTIMATION=	OLS
MISR	-173.04	+	.0023	MISR	+	.0399	MISR	+	.6159	MISR		R SQAR BAR=	.995	DURBIN WAT=	1.984
TSO			(1.40)	Y		(2.42)	P		(2.51)	TSOL		AVER % ERR=	2.80	ESTIMATION=	OLS
MONT	-14.77	+	.0061	MONT	+	.0184	MONT	+	.4350	MONT		R SQAR BAR=	.995	DURBIN WAT=	1.336
TSO			(2.86)	Y		(.62)	P		(2.01)	TSOL		AVER % ERR=	2.27	ESTIMATION=	C-O
NEBR	-32.56	+	.0040	NEBR	+	2.7161	U.S.					R SQAR BAR=	.992	DURBIN WAT=	1.515
TSO			(2.84)	Y		(4.27)	TIME					AVER % ERR=	4.57	ESTIMATION=	C-O
NEVA	-.37	+	.0132	NEVA	+	-.7424	U.S.					R SQAR BAR=	.987	DURBIN WAT=	1.782
TSO			(16.57)	Y		(5.04)	TIME					AVER % ERR=	7.93	ESTIMATION=	OLS
NHAM	-79.43	+	.0054	NHAM	+	.1309	NHAM					R SQAR BAR=	.993	DURBIN WAT=	1.402
TSO			(2.45)	Y		(2.88)	P					AVER % ERR=	3.52	ESTIMATION=	C-O
NJER	-337.61	+	.0064	NJER	+	.0491	NJER					R SQAR BAR=	.987	DURBIN WAT=	.947
TSO			(6.25)	Y		(1.57)	P					AVER % ERR=	4.14	ESTIMATION=	C-O
NMEX	-4.16	+	.0064	NMEX	+	.5812	NMEX					R SQAR BAR=	.977	DURBIN WAT=	1.404
TSO			(2.36)	Y		(2.66)	TSOL					AVER % ERR=	6.35	ESTIMATION=	OLS
NYOR	-275.15	+	.0023	NYOR	+	.0164	NYOR	+	.6181	NYOR		R SQAR BAR=	.982	DURBIN WAT=	1.567
TSO			(1.82)	Y		(1.20)	P		(2.88)	TSOL		AVER % ERR=	3.72	ESTIMATION=	OLS
NCAR	-189.94	+	.0066	NCAR	+	.0414	NCAR					R SQAR BAR=	.996	DURBIN WAT=	1.296
TSO			(5.97)	Y		(1.32)	P					AVER % ERR=	2.78	ESTIMATION=	C-O

ESTIMATION FOR: TSO TAXES, PERSONAL TAX & NONTAX PAYMENTS : STATE OTHER (40) LAG DEPENDENT VARIABLE: TSOL

NDAK	-7.35	+	.0026	NDAK	+	1.3530	U.S.				R SQAR BAR=	.981	DURBIN WAT=	.581
TSO			(3.03)	Y		(10.16)	TIME				AVER % ERR=	5.58	ESTIMATION=	OLS
OHIO	-423.38	+	.0014	OHIO	+	.0424	OHIO	+	.7774	OHIO	R SQAR BAR=	.999	DURBIN WAT=	1.832
TSO			(1.62)	Y		(3.38)	P		(6.68)	TSOL	AVER % ERR=	1.48	ESTIMATION=	C-O
OKLA	-54.03	+	.0067	OKLA	+	.0447	OKLA				R SQAR BAR=	.993	DURBIN WAT=	.511
TSO			(3.81)	Y		(.88)	P				AVER % ERR=	3.52	ESTIMATION=	C-O
OREG	-129.80	+	.0067	OREG	+	.0749	OREG				R SQAR BAR=	.991	DURBIN WAT=	1.687
TSO			(7.41)	Y		(4.95)	P				AVER % ERR=	3.09	ESTIMATION=	OLS
PENN	-220.07	+	.0018	PENN	+	.0187	PENN	+	.8122	PENN	R SQAR BAR=	.990	DURBIN WAT=	1.426
TSO			(1.27)	Y		(1.08)	P		(4.62)	TSOL	AVER % ERR=	3.51	ESTIMATION=	OLS
RHIS	-38.54	+	.0025	RHIS	+	.0424	RHIS	+	.8641	RHIS	R SQAR BAR=	.997	DURBIN WAT=	2.061
TSO			(.92)	Y		(2.77)	P		(5.57)	TSOL	AVER % ERR=	2.46	ESTIMATION=	OLS
SCAR	-17.23	+	.0038	SCAR	+	.0051	SCAR	+	.5362	SCAR	R SQAR BAR=	.998	DURBIN WAT=	2.538
TSO			(2.38)	Y		(.85)	P		(2.47)	TSOL	AVER % ERR=	2.25	ESTIMATION=	OLS
SDAK	-3.48	+	.0059	SDAK	+	.7162	U.S.				R SQAR BAR=	.975	DURBIN WAT=	1.053
TSO			(4.96)	Y		(4.45)	TIME				AVER % ERR=	5.87	ESTIMATION=	OLS
TENN	-111.15	+	.0034	TENN	+	8.4285	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.032
TSO			(1.45)	Y		(2.34)	TIME				AVER % ERR=	3.56	ESTIMATION=	C-O
TEXA	-818.62	+	.0023	TEXA	+	.0901	TEXA				R SQAR BAR=	.995	DURBIN WAT=	1.232
TSO			(2.10)	Y		(3.64)	P				AVER % ERR=	2.70	ESTIMATION=	C-O
UTAH			E X O G E N O U S											
VERM	-.63	+	.0061	VERM	+	.7703	VERM				R SQAR BAR=	.995	DURBIN WAT=	1.006
TSO			(1.76)	Y		(5.02)	TSOL				AVER % ERR=	2.59	ESTIMATION=	C-O
VIRG	-241.03	+	.0157	VIRG	+	.0644	VIRG	+	-7.6687	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.814
TSO			(27.22)	Y		(1.55)	P		(2.47)	TIME	AVER % ERR=	2.30	ESTIMATION=	OLS
WASH	-483.75	+	.0038	WASH	+	.1747	WASH				R SQAR BAR=	.980	DURBIN WAT=	1.157
TSO			(1.50)	Y		(3.05)	P				AVER % ERR=	6.34	ESTIMATION=	C-O
WVIR	-9.12	+	.0002	WVIR	+	2.7031	U.S.				R SQAR BAR=	.971	DURBIN WAT=	.608
TSO			(.21)	Y		(9.64)	TIME				AVER % ERR=	5.84	ESTIMATION=	OLS
WISC	-893.78	+	.0082	WISC	+	.2154	WISC				R SQAR BAR=	.995	DURBIN WAT=	.934
TSO			(5.26)	Y		(3.03)	P				AVER % ERR=	3.28	ESTIMATION=	C-O
WYOM	-5.02	+	.0034	WYOM	+	.7014	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.246
TSO			(4.20)	Y		(6.75)	TIME				AVER % ERR=	2.68	ESTIMATION=	C-O

ESTIMATION FOR: TLN TAXES, PERSONAL TAX & NONTAX PAYMENTS : LOCAL & NON-ASSIGNABLE (41) LAG DEPENDENT VARIABLE: TLNL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1961 TO 1976 IN STATES: ALAS HAWA

ALAB	-18.53	+	.0067	ALAB	+	.7655	ALAB				R SQAR BAR=	.984	DURBIN WAT=	1.377
TLN			(1.90)	Y		(4.33)	TLNL				AVER % ERR=	6.12	ESTIMATION=	OLS
ALAS	-28.00	+	.0026	ALAS	+	1.6926	U.S.				R SQAR BAR=	.990	DURBIN WAT=	1.517
TLN			(2.69)	Y		(5.98)	TIME				AVER % ERR=	5.57	ESTIMATION=	C-O
ARIS	-68.63	+	.0092	ARIS	+	.0451	ARIS				R SQAR BAR=	.992	DURBIN WAT=	1.658
TLN			(3.57)	Y		(1.50)	P				AVER % ERR=	4.47	ESTIMATION=	C-O
ARKA			E X O G E N O U S											
CALF	-57.02	+	.0032	CALF	+	.7648	CALF				R SQAR BAR=	.989	DURBIN WAT=	1.677
TLN			(2.01)	Y		(4.77)	TLNL				AVER % ERR=	3.69	ESTIMATION=	OLS
COLO	.00	+	.0110	COLO	+	.0042	COLO	+	-2.3408	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.370
TLN			(24.28)	Y		(2.11)	P		(6.06)	TIME	AVER % ERR=	5.33	ESTIMATION=	OLS
CONN	-4.74	+	.0020	CONN	+	.6903	CONN				R SQAR BAR=	.994	DURBIN WAT=	1.803
TLN			(2.76)	Y		(4.74)	TLNL				AVER % ERR=	2.93	ESTIMATION=	OLS
DELA	-30.33	+	.0019	DELA	+	.0621	DELA				R SQAR BAR=	.982	DURBIN WAT=	1.483
TLN			(2.28)	Y		(2.89)	P				AVER % ERR=	6.21	ESTIMATION=	C-O
D.C.	-24.42	+	.0172	D.C.	+	.7122	D.C.				R SQAR BAR=	.991	DURBIN WAT=	1.362
TLN			(1.78)	Y		(3.72)	TLNL				AVER % ERR=	4.25	ESTIMATION=	C-O
FLOR	-22.22	+	.0072	FLOR	+	.5280	FLOR				R SQAR BAR=	.993	DURBIN WAT=	1.819
TLN			(3.74)	Y		(3.32)	TLNL				AVER % ERR=	5.10	ESTIMATION=	OLS
GEOR	-23.01	+	.0071	GEOR	+	.7459	GEOR				R SQAR BAR=	.991	DURBIN WAT=	1.542
TLN			(2.43)	Y		(5.04)	TLNL				AVER % ERR=	4.81	ESTIMATION=	OLS
HAWA	.00	+	.0163	HAWA	+	.0076	HAWA	+	-1.6394	U.S.	R SQAR BAR=	.991	DURBIN WAT=	2.009
TLN			(15.25)	Y		(1.05)	P		(3.74)	TIME	AVER % ERR=	4.38	ESTIMATION=	OLS
IDAH	-1.23	+	.0033	IDAH	+	.6832	IDAH				R SQAR BAR=	.979	DURBIN WAT=	1.490
TLN			(2.10)	Y		(3.34)	TLNL				AVER % ERR=	5.87	ESTIMATION=	OLS
ILLI	-44.30	+	.0032	ILLI	+	.7357	ILLI				R SQAR BAR=	.994	DURBIN WAT=	1.759
TLN			(2.41)	Y		(4.81)	TLNL				AVER % ERR=	3.13	ESTIMATION=	OLS
INDI	-26.28	+	.0041	INDI	+	.8570	INDI				R SQAR BAR=	.990	DURBIN WAT=	1.780
TLN			(1.98)	Y		(6.24)	TLNL				AVER % ERR=	5.22	ESTIMATION=	OLS
IOWA	-1352.16	+	.0099	IOWA	+	.5051	IOWA	+	-4.2843	U.S.	R SQAR BAR=	.979	DURBIN WAT=	1.457
TLN			(9.26)	Y		(6.00)	P		(4.21)	TIME	AVER % ERR=	6.37	ESTIMATION=	OLS
KANS	-455.19	+	.0146	KANS	+	.2108	KANS	+	-2.5111	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.132
TLN			(11.26)	Y		(2.83)	P		(2.66)	TIME	AVER % ERR=	5.78	ESTIMATION=	OLS

ESTIMATION FOR: TLN TAXES. PERSONAL TAX & NONTAX PAYMENTS : LOCAL & NON-ASSIGNABLE (41) LAG DEPENDENT VARIABLE: TLNL

KENT	-275.75	+	.0242	KENT	+	.0817	KENT	+	-1.8442	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.781
TLN			(20.55)	YE		(1.11)	P		(1.06)	TIME	AVER % ERR=	3.12	ESTIMATION=	OLS
LOUS	-10.98	+	.0034	LOUS	+	.8245	LOUS				R SQAR BAR=	.989	DURBIN WAT=	1.582
TLN			(2.12)	Y		(6.09)	TLNL				AVER % ERR=	5.62	ESTIMATION=	OLS
MAIN	-62.38	+	.0018	MAIN	+	.0759	MAIN	+	-.5247	U.S.	R SQAR BAR=	.894	DURBIN WAT=	1.089
TLN			(1.45)	Y		(2.69)	P		(1.69)	TIME	AVER % ERR=	6.85	ESTIMATION=	C-O
MARY	-48.82	+	.0111	MARY	+	.7307	MARY				R SQAR BAR=	.996	DURBIN WAT=	2.258
TLN			(3.79)	YE		(6.93)	TLNL				AVER % ERR=	3.91	ESTIMATION=	OLS
MASS	-35.31	+	.0053	MASS	+	.5240	MASS				R SQAR BAR=	.993	DURBIN WAT=	1.779
TLN			(3.54)	Y		(3.24)	TLNL				AVER % ERR=	3.68	ESTIMATION=	OLS
MICH	-47.46	+	.0047	MICH	+	.8855	MICH				R SQAR BAR=	.993	DURBIN WAT=	1.665
TLN			(2.02)	YE		(8.10)	TLNL				AVER % ERR=	3.49	ESTIMATION=	OLS
MINN	-1413.25	+	.0230	MINN	+	.4688	MINN	+	-27.1801	U.S.	R SQAR BAR=	.983	DURBIN WAT=	1.967
TLN			(13.84)	Y		(3.74)	P		(4.76)	TIME	AVER % ERR=	6.08	ESTIMATION=	OLS
MISS	-4.14	+	.0052	MISS	+	.7869	MISS				R SQAR BAR=	.974	DURBIN WAT=	1.293
TLN			(1.33)	Y		(3.65)	TLNL				AVER % ERR=	6.50	ESTIMATION=	OLS
MISR	-23.61	+	.0051	MISR	+	.8428	MISR				R SQAR BAR=	.995	DURBIN WAT=	2.306
TLN			(1.94)	YE		(5.88)	TLNL				AVER % ERR=	3.23	ESTIMATION=	OLS
MONT	-3.32	+	.0043	MONT	+	.8334	MONT				R SQAR BAR=	.992	DURBIN WAT=	1.523
TLN			(2.18)	Y		(5.92)	TLNL				AVER % ERR=	3.40	ESTIMATION=	OLS
NEBR	-7.36	+	.0056	NEBR	+	.7414	NEBR				R SQAR BAR=	.987	DURBIN WAT=	1.462
TLN			(2.08)	Y		(4.29)	TLNL				AVER % ERR=	4.46	ESTIMATION=	OLS
NEVA	-7.54	+	.0234	NEVA							R SQAR BAR=	.979	DURBIN WAT=	1.383
TLN			(9.97)	Y							AVER % ERR=	7.00	ESTIMATION=	C-O
NHAM	-1.41	+	.0019	NHAM	+	.7709	NHAM				R SQAR BAR=	.991	DURBIN WAT=	1.720
TLN			(2.86)	Y		(6.00)	TLNL				AVER % ERR=	5.18	ESTIMATION=	OLS
NJER			E X O G E N O U S											
NMEX	-27.17	+	.0041	NMEX	+	2.4568	U.S.				R SQAR BAR=	.981	DURBIN WAT=	1.364
TLN			(1.37)	Y		(2.53)	TIME				AVER % ERR=	6.19	ESTIMATION=	C-O
NYOR	-274.49	+	.0067	NYOR	+	.8397	NYOR				R SQAR BAR=	.984	DURBIN WAT=	1.422
TLN			(2.31)	Y		(6.11)	TLNL				AVER % ERR=	9.81	ESTIMATION=	OLS
NCAR	-316.66	+	.0094	NCAR	+	.0853	NCAR	+	-8.6143	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.478
TLN			(7.49)	Y		(1.53)	P		(2.35)	TIME	AVER % ERR=	4.79	ESTIMATION=	C-O

NDAK	-9.46	+	.0019	NDAK	+	1.2624	U.S.				R SQAR BAR=	.974	DURBIN WAT=	.926
TLN			(1.47)	Y		(5.41)	TIME				AVER % ERR=	7.34	ESTIMATION=	C-O
OHIO	-83.94	+	.0050	OHIO	+	.9842	OHIO				R SQAR BAR=	.989	DURBIN WAT=	2.285
TLN			(1.57)	YE		(7.97)	TLNL				AVER % ERR=	5.81	ESTIMATION=	OLS
OKLA	-6.47	+	.0030	OKLA	+	.7431	OKLA				R SQAR BAR=	.984	DURBIN WAT=	1.504
TLN			(2.44)	Y		(4.80)	TLNL				AVER % ERR=	6.52	ESTIMATION=	OLS
OREG	-5.26	+	.0024	OREG	+	.8091	OREG				R SQAR BAR=	.990	DURBIN WAT=	1.514
TLN			(2.21)	Y		(5.63)	TLNL				AVER % ERR=	4.83	ESTIMATION=	OLS
PENN	-168.70	+	.0116	PENN	+	.6368	PENN				R SQAR BAR=	.990	DURBIN WAT=	2.243
TLN			(3.09)	YE		(4.12)	TLNL				AVER % ERR=	5.10	ESTIMATION=	OLS
RHIS	-.06	+	.0012	RHIS	+	.7717	RHIS				R SQAR BAR=	.982	DURBIN WAT=	1.279
TLN			(2.35)	Y		(5.38)	TLNL				AVER % ERR=	4.25	ESTIMATION=	OLS
SCAR	-8.30	+	.0048	SCAR	+	.8162	SCAR				R SQAR BAR=	.992	DURBIN WAT=	1.405
TLN			(1.72)	Y		(4.76)	TLNL				AVER % ERR=	4.80	ESTIMATION=	OLS
SDAK	-2.06	+	.0091	SDAK							R SQAR BAR=	.910	DURBIN WAT=	1.044
TLN			(14.23)	Y							AVER % ERR=	12.35	ESTIMATION=	OLS
TENN	-13.16	+	.0041	TENN	+	.7542	TENN				R SQAR BAR=	.990	DURBIN WAT=	1.546
TLN			(2.30)	Y		(4.80)	TLNL				AVER % ERR=	5.26	ESTIMATION=	OLS
TEXA	-15.05	+	.0028	TEXA	+	.7543	TEXA				R SQAR BAR=	.984	DURBIN WAT=	1.491
TLN			(2.22)	Y		(4.65)	TLNL				AVER % ERR=	5.98	ESTIMATION=	OLS
UTAH	-47.42	+	.0077	UTAH	+	3.2008	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.790
TLN			(4.22)	Y		(4.60)	TIME				AVER % ERR=	2.89	ESTIMATION=	C-O
VERM	-13.06	+	.0038	VERM	+	.0427	VERM	+	-.4161	U.S.	R SQAR BAR=	.978	DURBIN WAT=	1.656
TLN			(6.52)	Y		(2.38)	P		(3.97)	TIME	AVER % ERR=	6.44	ESTIMATION=	C-O
VIRG	-13.98	+	.0053	VIRG							R SQAR BAR=	.985	DURBIN WAT=	1.494
TLN			(9.99)	Y							AVER % ERR=	6.58	ESTIMATION=	C-O
WASH	-9.60	+	.0028	WASH	+	.8258	WASH				R SQAR BAR=	.988	DURBIN WAT=	1.664
TLN			(2.28)	Y		(6.53)	TLNL				AVER % ERR=	5.18	ESTIMATION=	OLS
WVIR	-366.81	+	.0032	WVIR	+	.1778	WVIR	+	5.0123	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.230
TLN			(1.07)	Y		(2.80)	P		(3.52)	TIME	AVER % ERR=	3.37	ESTIMATION=	C-O
WISC	-42.37	+	.0095	WISC							R SQAR BAR=	.978	DURBIN WAT=	1.169
TLN			(7.36)	Y							AVER % ERR=	7.04	ESTIMATION=	C-O
WYOM	-57.37	+	.0117	WYOM	+	4.1488	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.433
TLN			(2.38)	Y		(5.16)	TIME				AVER % ERR=	3.97	ESTIMATION=	C-O

ESTIMATION FOR: UR UNEMPLOYMENT RATE, TOTAL (42) LAG DEPENDENT VARIABLE: URL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1958 TO 1976 IN STATES: ALAS

ALAB	.31	+	.8750	ALAB	+	-.3503	ALAB	+	-.0733	ALAB	+	.5631	ALAB	R SQAR BAR=	.854	DURBIN WAT=	2.450
UR			(7.13)	URL		(7.16)	XT2		(1.83)	XT2L		(3.95)	PT5P	AVER % ERR=	6.66	ESTIMATION=	OLS
ALAS	.56	+	.7624	ALAS	+	-.0680	ALAS	+	.3219	U.S.				R SQAR BAR=	.834	DURBIN WAT=	1.530
UR			(5.04)	URL		(4.75)	XT2		(2.28)	UR				AVER % ERR=	4.57	ESTIMATION=	C-O
ARIS	3.09	+	.4009	ARIZ	+	-.2410	ARIS	+	-.3029	ARIZ	+	.4222	ARIZ	R SQAR BAR=	.864	DURBIN WAT=	2.059
UR			(2.05)	URL		(5.11)	XT2		(3.36)	XT2L		(3.83)	PT5P	AVER % ERR=	7.85	ESTIMATION=	OLS
ARKA	.11	+	.2935	ARKA	+	-.0888	ARKA	+	.7076	U.S.				R SQAR BAR=	.902	DURBIN WAT=	2.080
UR			(2.69)	URL		(2.97)	XT2		(9.41)	UR				AVER % ERR=	5.07	ESTIMATION=	OLS
CALF	.70	+	.8446	CALF	+	-.3203	CALF	+	-.0809	CALF	+	.3629	CALF	R SQAR BAR=	.777	DURBIN WAT=	1.800
UR			(6.02)	URL		(4.46)	XT2		(1.21)	XT2L		(1.54)	PT5P	AVER % ERR=	7.83	ESTIMATION=	OLS
COLO	.36	+	.6350	COLO	+	-.1006	COLO	+	.2885	U.S.				R SQAR BAR=	.784	DURBIN WAT=	2.220
UR			(6.08)	URL		(2.33)	XT2		(3.85)	UR				AVER % ERR=	6.67	ESTIMATION=	OLS
CONN	-.84	+	.5265	CONN	+	-.2783	CONN	+	.2804	CONN	+	.6063	U.S.	R SQAR BAR=	.879	DURBIN WAT=	1.597
UR			(4.34)	URL		(3.62)	XT2		(1.62)	PT5P		(2.89)	UR	AVER % ERR=	7.94	ESTIMATION=	OLS
DELA	-1.16	+	.3674	DELA	+	-.0793	DELA	+	.8428	U.S.				R SQAR BAR=	.916	DURBIN WAT=	1.481
UR			(3.37)	URL		(2.62)	XT2		(6.91)	UR				AVER % ERR=	7.28	ESTIMATION=	OLS
D.C.	-.69	+	1.0328	D.C.	+	-.0319	D.C.	+	.1650	U.S.				R SQAR BAR=	.791	DURBIN WAT=	3.199
UR			(6.92)	URL		(.41)	XT2		(.88)	UR				AVER % ERR=	16.58	ESTIMATION=	OLS
FLOR	.00	+	.3633	FLOR	+	-.2263	FLOR	+	.0780	FLOR	+	.7213	U.S.	R SQAR BAR=	.941	DURBIN WAT=	1.878
UR			(4.14)	URL		(5.75)	XT2		(1.06)	PT5P		(6.86)	UR	AVER % ERR=	7.38	ESTIMATION=	OLS
GEOR	-.29	+	.4126	GEOR	+	-.1769	GEOR	+	.6907	U.S.				R SQAR BAR=	.850	DURBIN WAT=	2.137
UR			(3.08)	URL		(3.19)	XT2		(4.12)	UR				AVER % ERR=	8.45	ESTIMATION=	OLS
HAWA	1.61	+	.7296	HAWA	+	-.2483	HAWA	+	.1573	HAWA				R SQAR BAR=	.733	DURBIN WAT=	1.127
UR			(4.00)	URL		(2.67)	XT2		(1.33)	PT5P				AVER % ERR=	10.52	ESTIMATION=	OLS
IDAH	1.91	+	.6588	IDAH	+	-.1034	IDAH	+	-.0373	IDAH	+	.0931	IDAH	R SQAR BAR=	.316	DURBIN WAT=	1.774
UR			(3.33)	URL		(2.33)	XT2		(.87)	XT2L		(.83)	PT5P	AVER % ERR=	8.02	ESTIMATION=	OLS
ILLI	1.14	+	.7036	ILLI	+	-.2666	ILLI	+	-.1839	ILLI	+	.1704	ILLI	R SQAR BAR=	.708	DURBIN WAT=	2.238
UR			(3.90)	URL		(3.70)	XT2		(2.62)	XT2L		(.78)	PT5P	AVER % ERR=	11.13	ESTIMATION=	OLS
INDI	-.40	+	.1173	INDI	+	-.1341	INDI	+	.8790	U.S.				R SQAR BAR=	.931	DURBIN WAT=	1.524
UR			(.98)	URL		(4.26)	XT2		(6.99)	UR				AVER % ERR=	6.14	ESTIMATION=	OLS
IOWA	1.49	+	.5181	IOWA	+	-.0755	IOWA	+	-.0749	IOWA	+	.0726	IOWA	R SQAR BAR=	.364	DURBIN WAT=	2.159
UR			(2.78)	URL		(1.87)	XT2		(2.01)	XT2L		(.59)	PT5P	AVER % ERR=	11.32	ESTIMATION=	OLS
KANS	1.57	+	.5268	KANS	+	-.1389	KANS	+	-.1161	KANS	+	.2413	KANS	R SQAR BAR=	.353	DURBIN WAT=	1.844
UR			(2.64)	URL		(1.99)	XT2		(1.81)	XT2L		(1.71)	PT5P	AVER % ERR=	12.43	ESTIMATION=	OLS

ESTIMATION FOR: UR UNEMPLOYMENT RATE, TOTAL (42) LAG DEPENDENT VARIABLE: URL

KENT	1.02	+	.7679	KENT	+	-.3885	KENT	+	.4472	KENT				R SQAR BAR=	.643	DURBIN WAT=	2.682
UR			(5.02)	URL		(4.62)	XT2		(1.18)	PT5P				AVER % ERR=	12.16	ESTIMATION=	OLS
LOUS	2.01	+	.7161	LOUS	+	-.2665	LOUS							R SQAR BAR=	.719	DURBIN WAT=	2.144
UR			(5.96)	URL		(5.32)	XT2							AVER % ERR=	8.57	ESTIMATION=	OLS
MAIN	.88	+	.8069	MAIN	+	-.2520	MAIN	+	-.2000	MAIN	+	.3134	MAIN	R SQAR BAR=	.764	DURBIN WAT=	2.394
UR			(5.07)	URL		(3.68)	XT2		(3.08)	XT2L		(1.78)	PT5P	AVER % ERR=	8.74	ESTIMATION=	OLS
MARY	1.52	+	.6700	MARY	+	-.2228	MARY	+	-.2339	MARY	+	.2022	MARY	R SQAR BAR=	.827	DURBIN WAT=	2.238
UR			(4.61)	URL		(3.03)	XT2		(3.53)	XT2L		(1.29)	PT5P	AVER % ERR=	10.23	ESTIMATION=	OLS
MASS	-1.33	+	.5521	MASS	+	-.2896	MASS	+	.4881	MASS	+	.6234	U.S.	R SQAR BAR=	.925	DURBIN WAT=	2.651
UR			(5.91)	URL		(4.51)	XT2		(2.99)	PT5P		(3.85)	UR	AVER % ERR=	7.94	ESTIMATION=	OLS
MICH	-2.64	+	.3081	MICH	+	-.2178	MICH	+	.2123	MICH	+	1.2738	U.S.	R SQAR BAR=	.933	DURBIN WAT=	1.945
UR			(2.67)	URL		(6.23)	XT2		(1.18)	PT5P		(6.80)	UR	AVER % ERR=	7.12	ESTIMATION=	OLS
MINN	2.33	+	.5096	MINN	+	-.1008	MINN	+	-.1274	MINN				R SQAR BAR=	.476	DURBIN WAT=	2.467
UR			(2.81)	URL		(1.85)	XT2		(2.25)	XT2L				AVER % ERR=	10.53	ESTIMATION=	OLS
MISS	1.66	+	.7519	MISS	+	-.1980	MISS	+	-.1207	MISS				R SQAR BAR=	.594	DURBIN WAT=	2.685
UR			(4.43)	URL		(3.62)	XT2		(2.60)	XT2L				AVER % ERR=	11.50	ESTIMATION=	OLS
MISR	.83	+	.7414	MISR	+	-.1521	MISR	+	-.1841	MISR	+	.2840	MISR	R SQAR BAR=	.867	DURBIN WAT=	2.361
UR			(6.78)	URL		(4.10)	XT2		(4.61)	XT2L		(2.19)	PT5P	AVER % ERR=	8.75	ESTIMATION=	OLS
MONT	1.30	+	.6911	MONT	+	-.0435	MONT	+	-.0385	MONT	+	.2235	MONT	R SQAR BAR=	.593	DURBIN WAT=	1.947
UR			(4.55)	URL		(1.00)	XT2		(.88)	XT2L		(1.40)	PT5P	AVER % ERR=	12.33	ESTIMATION=	OLS
NEBR	1.84	+	.4422	NEBR	+	-.0298	NEBR	+	-.0452	NEBR				R SQAR BAR=	.088	DURBIN WAT=	1.907
UR			(2.05)	URL		(.71)	XT2		(1.17)	XT2L				AVER % ERR=	11.34	ESTIMATION=	OLS
NEVA	.00	+	.5497	NEVA	+	-.1890	NEVA	+	.0728	NEVA	+	.6024	U.S.	R SQAR BAR=	.838	DURBIN WAT=	2.155
UR			(6.78)	URL		(4.67)	XT2		(1.28)	PT5P		(5.46)	UR	AVER % ERR=	5.48	ESTIMATION=	OLS
NHAM	.44	+	.8267	NHAM	+	-.2051	NHAM	+	-.1720	NHAM	+	.2898	NHAM	R SQAR BAR=	.780	DURBIN WAT=	2.730
UR			(5.81)	URL		(4.65)	XT2		(3.51)	XT2L		(1.99)	PT5P	AVER % ERR=	10.94	ESTIMATION=	OLS
NJER	-1.38	+	.9922	NJER	+	-.2718	NJER	+	.4530	NJER	+	.2296	U.S.	R SQAR BAR=	.959	DURBIN WAT=	1.060
UR			(7.11)	URL		(5.11)	XT2		(2.03)	PT5P		(1.43)	UR	AVER % ERR=	4.72	ESTIMATION=	OLS
NMEX	-1.30	+	.8412	NMEX	+	-.1520	NMEX	+	.1298	NMEX	+	.4034	U.S.	R SQAR BAR=	.871	DURBIN WAT=	1.888
UR			(7.28)	URL		(2.83)	XT2		(1.71)	PT5P		(3.51)	UR	AVER % ERR=	6.84	ESTIMATION=	OLS
NYOR	1.32	+	.7150	NYOR	+	-.1969	NYOR	+	-.2962	NYOR	+	.1018	NYOR	R SQAR BAR=	.865	DURBIN WAT=	2.440
UR			(5.20)	URL		(2.85)	XT2		(3.42)	XT2L		(.43)	PT5P	AVER % ERR=	8.94	ESTIMATION=	OLS
NCAR	1.50	+	.3655	NCAR	+	-.2250	NCAR	+	-.5006	NCAR	+	.5534	U.S.	R SQAR BAR=	.801	DURBIN WAT=	2.140
UR			(2.40)	URL		(4.26)	XT2		(1.64)	PT5P		(3.77)	UR	AVER % ERR=	9.27	ESTIMATION=	OLS

ESTIMATION FOR: UR UNEMPLOYMENT RATE, TOTAL (42) LAG DEPENDENT VARIABLE: URL

NDAK	1.63	+	.6433	NDAK	+	-.0014	NDAK							R SQAR BAR=	.315	DURBIN WAT=	1.482
UR			(3.19)	URL		(.10)	XT2							AVER % ERR=	10.37	ESTIMATION=	OLS
OHIO	.00	+	.9474	OHIO	+	-.3635	OHIO	+	-.0471	OHIO	+	.3751	OHIO	R SQAR BAR=	.800	DURBIN WAT=	2.353
UR			(22.43)	URL		(8.37)	XT2		(1.06)	XT2L		(1.82)	PT5P	AVER % ERR=	9.58	ESTIMATION=	OLS
OKLA	.48	+	.3319	OKLA	+	-.0367	OKLA	+	.4754	U.S.				R SQAR BAR=	.891	DURBIN WAT=	1.300
UR			(2.94)	URL		(.76)	XT2		(7.78)	UR				AVER % ERR=	4.50	ESTIMATION=	OLS
OREG	-2.03	+	1.3132	OREG	+	-.3553	OREG	+	.4000	OREG				R SQAR BAR=	.904	DURBIN WAT=	2.322
UR			(13.54)	URL		(9.07)	XT2		(3.85)	PT5P				AVER % ERR=	5.82	ESTIMATION=	OLS
PENN	-.46	+	1.0080	PENN	+	-.4598	PENN	+	.5180	PENN				R SQAR BAR=	.873	DURBIN WAT=	2.363
UR			(10.59)	URL		(6.62)	XT2		(1.86)	PT5P				AVER % ERR=	7.58	ESTIMATION=	OLS
RHIS	3.22	+	.4280	RHIS	+	-.3350	RHIS	+	-.3011	RHIS				R SQAR BAR=	.749	DURBIN WAT=	2.229
UR			(2.72)	URL		(3.57)	XT2		(2.60)	XT2L				AVER % ERR=	12.57	ESTIMATION=	OLS
SCAR	.49	+	.1999	SCAR	+	-.1258	SCAR	+	.7180	U.S.				R SQAR BAR=	.643	DURBIN WAT=	1.732
UR			(.85)	URL		(1.44)	XT2		(3.10)	UR				AVER % ERR=	11.61	ESTIMATION=	OLS
SDAK	1.47	+	.5508	SDAK	+	-.0109	SDAK	+	-.0057	SDAK	+	.0357	SDAK	R SQAR BAR=	.228	DURBIN WAT=	1.933
UR			(2.79)	URL		(.80)	XT2		(.41)	XT2L		(.47)	PT5P	AVER % ERR=	9.96	ESTIMATION=	OLS
TENN	-.53	+	1.0015	TENN	+	-.3757	TENN	+	.7249	TENN				R SQAR BAR=	.860	DURBIN WAT=	2.495
UR			(13.24)	URL		(9.94)	XT2		(3.76)	PT5P				AVER % ERR=	7.48	ESTIMATION=	C-O
TEXA	1.10	+	.8214	TEXA	+	-.2283	TEXA	+	-.1415	TEXA	+	.1421	TEXA	R SQAR BAR=	.821	DURBIN WAT=	1.956
UR			(6.61)	URL		(4.21)	XT2		(2.41)	XT2L		(.97)	PT5P	AVER % ERR=	7.01	ESTIMATION=	OLS
UTAH	1.29	+	.7536	UTAH	+	-.1604	UTAH	+	-.0705	UTAH	+	.1292	UTAH	R SQAR BAR=	.691	DURBIN WAT=	1.615
UR			(5.26)	URL		(3.08)	XT2		(1.34)	XT2L		(1.07)	PT5P	AVER % ERR=	7.60	ESTIMATION=	OLS
VERM	-.66	+	.4147	VERM	+	-.0843	VERM	+	.7961	U.S.				R SQAR BAR=	.849	DURBIN WAT=	1.497
UR			(3.06)	URL		(1.47)	XT2		(4.85)	UR				AVER % ERR=	7.38	ESTIMATION=	OLS
VIRG	-.02	+	.2530	VIRG	+	-.0596	VIRG	+	.5704	U.S.				R SQAR BAR=	.935	DURBIN WAT=	1.806
UR			(2.63)	URL		(2.16)	XT2		(8.55)	UR				AVER % ERR=	4.61	ESTIMATION=	OLS
WASH	1.08	+	.8215	WASH	+	-.3199	WASH	+	-.0807	WASH	+	.1975	WASH	R SQAR BAR=	.751	DURBIN WAT=	1.557
UR			(5.93)	URL		(4.57)	XT2		(1.09)	XT2L		(1.23)	PT5P	AVER % ERR=	8.92	ESTIMATION=	OLS
WVIR	.99	+	.8006	WVIR	+	-.6583	WVIR	+	.4366	WVIR				R SQAR BAR=	.701	DURBIN WAT=	1.476
UR			(4.93)	URL		(5.50)	XT2		(1.16)	PT5P				AVER % ERR=	12.76	ESTIMATION=	OLS
WISC	.20	+	.9437	WISC	+	-.2095	WISC	+	-.0499	WISC	+	.1962	WISC	R SQAR BAR=	.861	DURBIN WAT=	2.449
UR			(7.80)	URL		(6.34)	XT2		(1.44)	XT2L		(1.62)	PT5P	AVER % ERR=	8.07	ESTIMATION=	OLS
WYOM	1.79	+	.5742	WYOM	+	-.1056	WYOM	+	.0667	WYOM				R SQAR BAR=	.361	DURBIN WAT=	1.700
UR			(3.14)	URL		(1.81)	XT2		(.79)	PT5P				AVER % ERR=	13.43	ESTIMATION=	OLS

ESTIMATION FOR: UIR UNEMPLOYMENT RATE, INSURED (43) LAG DEPENDENT VARIABLE: UIRL

THE ESTIMATION PERIOD IS FROM 1958 TO 1976

ALAB	-1.64	+	.6396	ALAB	+	.0055	U.S.	+	-.0826	ALAB				R SQAR BAR=	.945	DURBIN WAT=	1.023
UIR			(14.68)	UR		(1.20)	UICR		(1.14)	UIRL				AVER % ERR=	7.28	ESTIMATION=	OLS
ALAS	2.93	+	.1928	ALAS	+	.5623	U.S.	+	-.0697	U.S.				R SQAR BAR=	.375	DURBIN WAT=	2.006
UIR			(1.30)	UR		(2.83)	UIR		(2.02)	TIME				AVER % ERR=	8.32	ESTIMATION=	OLS
ARIS	.01	+	.5658	ARIS	+	.0157	U.S.	+	-.4098	ARIZ	+	-.0643	U.S.	R SQAR BAR=	.927	DURBIN WAT=	2.207
UIR			(12.71)	UR		(.71)	UICR		(4.31)	UIRL		(1.71)	TIME	AVER % ERR=	7.61	ESTIMATION=	OLS
ARKA	-2.26	+	.8199	ARKA	+	.0487	U.S.	+	-.2957	ARKA	+	-.0989	U.S.	R SQAR BAR=	.969	DURBIN WAT=	1.028
UIR			(20.42)	UR		(3.01)	UICR		(5.26)	UIRL		(3.49)	TIME	AVER % ERR=	4.67	ESTIMATION=	OLS
CALF	1.07	+	.5696	CALF	+	-.2305	CALF	+	-.0631	U.S.				R SQAR BAR=	.862	DURBIN WAT=	1.153
UIR			(10.61)	UR		(2.54)	UIRL		(5.77)	TIME				AVER % ERR=	4.58	ESTIMATION=	OLS
COLO	-1.27	+	.2586	COLO	+	.3880	U.S.	+	.0130	U.S.				R SQAR BAR=	.930	DURBIN WAT=	1.699
UIR			(5.76)	UR		(8.90)	UIR		(2.41)	TIME				AVER % ERR=	8.66	ESTIMATION=	OLS
CONN	-.88	+	.6705	CONN	+	.4100	U.S.	+	-.3220	CONN				R SQAR BAR=	.981	DURBIN WAT=	2.223
UIR			(14.38)	UR		(4.55)	UIR		(6.26)	UIRL				AVER % ERR=	4.98	ESTIMATION=	OLS
DELA	-.62	+	.3703	DELA	+	.5340	U.S.	+	-.1961	DELA				R SQAR BAR=	.952	DURBIN WAT=	1.795
UIR			(5.12)	UR		(4.75)	UIR		(2.32)	UIRL				AVER % ERR=	6.37	ESTIMATION=	OLS
D.C.	-1.14	+	.1683	D.C.	+	.5791	U.S.	+	.0487	U.S.				R SQAR BAR=	.958	DURBIN WAT=	1.218
UIR			(3.29)	UR		(8.37)	UIR		(2.75)	TIME				AVER % ERR=	6.86	ESTIMATION=	OLS
FLOR	-.61	+	.3934	FLOR	+	.0027	U.S.	+	-.1038	FLOR				R SQAR BAR=	.961	DURBIN WAT=	1.401
UIR			(16.29)	UR		(.71)	UICR		(1.53)	UIRL				AVER % ERR=	6.95	ESTIMATION=	OLS
GEOR	-.79	+	.1891	GEOR	+	.6723	U.S.	+	-.0119	U.S.				R SQAR BAR=	.937	DURBIN WAT=	1.581
UIR			(2.16)	UR		(3.45)	UIR		(1.27)	TIME				AVER % ERR=	10.97	ESTIMATION=	OLS
HAWA	-.69	+	.3900	HAWA	+	.2396	U.S.	+	.0256	U.S.				R SQAR BAR=	.912	DURBIN WAT=	1.446
UIR			(6.34)	UR		(2.52)	UIR		(1.46)	TIME				AVER % ERR=	7.59	ESTIMATION=	OLS
IDAH	-.21	+	.1551	IDAH	+	.4088	U.S.	+	.0238	U.S.				R SQAR BAR=	.944	DURBIN WAT=	1.309
UIR			(2.84)	UR		(8.19)	UIR		(5.39)	TIME				AVER % ERR=	3.76	ESTIMATION=	OLS
ILLI	-1.04	+	.3231	ILLI	+	.6662	U.S.							R SQAR BAR=	.965	DURBIN WAT=	1.035
UIR			(3.89)	UR		(4.90)	UIR							AVER % ERR=	6.44	ESTIMATION=	OLS
INDI	-.22	+	.2265	INDI	+	.6885	U.S.	+	-.2029	INDI	+	-.0272	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.887
UIR			(2.57)	UR		(3.83)	UIR		(4.98)	UIRL		(4.74)	TIME	AVER % ERR=	5.08	ESTIMATION=	OLS
IOWA	-.75	+	.2351	IOWA	+	.2964	U.S.	+	.0172	U.S.				R SQAR BAR=	.932	DURBIN WAT=	1.262
UIR			(3.09)	UR		(4.40)	UIR		(2.46)	TIME				AVER % ERR=	7.48	ESTIMATION=	OLS
KANS	-.48	+	.3697	KANS	+	.2017	U.S.	+	-.1522	KANS				R SQAR BAR=	.949	DURBIN WAT=	2.029
UIR			(9.46)	UR		(5.77)	UIR		(2.30)	UIRL				AVER % ERR=	5.34	ESTIMATION=	OLS

ESTIMATION FOR: UIR UNEMPLOYMENT RATE, INSURED (43) LAG DEPENDENT VARIABLE: UIRL

KENT	-.37	+	.1744	KENT	+	.5940	U.S.							R SQAR BAR=	.973	DURBIN WAT=	1.254
UIR			(2.75)	UR		(5.25)	UIR							AVER % ERR=	4.56	ESTIMATION=	C-0
LOUS	-1.93	+	.4857	LOUS	+	.0392	U.S.	+	-.0686	U.S.				R SQAR BAR=	.846	DURBIN WAT=	.995
UIR			(9.68)	UR		(1.74)	UICR		(1.75)	TIME				AVER % ERR=	8.44	ESTIMATION=	OLS
MAIN	-1.27	+	.6993	MAIN	+	.0351	U.S.	+	-.2413	MAIN	+	-.0825	U.S.	R SQAR BAR=	.967	DURBIN WAT=	1.775
UIR			(14.84)	UR		(1.12)	UICR		(4.38)	UIRL		(1.30)	TIME	AVER % ERR=	4.61	ESTIMATION=	C-0
MARY	-.13	+	.1444	MARY	+	.5860	U.S.							R SQAR BAR=	.969	DURBIN WAT=	1.696
UIR			(2.10)	UR		(5.42)	UIR							AVER % ERR=	4.64	ESTIMATION=	C-0
MASS	3.11	+	.6042	MASS	+	-.2815	MASS	+	-.1171	U.S.				R SQAR BAR=	.895	DURBIN WAT=	1.338
UIR			(10.19)	UR		(2.53)	UIRL		(6.43)	TIME				AVER % ERR=	6.87	ESTIMATION=	OLS
MICH	-.58	+	.6192	MICH	+	-.1898	MICH							R SQAR BAR=	.965	DURBIN WAT=	1.133
UIR			(20.07)	UR		(3.48)	UIRL							AVER % ERR=	6.33	ESTIMATION=	OLS
MINN	-.37	+	.2020	MINN	+	.5900	U.S.							R SQAR BAR=	.984	DURBIN WAT=	1.821
UIR			(4.49)	UR		(12.77)	UIR							AVER % ERR=	2.92	ESTIMATION=	C-0
MISS	-.69	+	.3052	MISS	+	.4034	U.S.	+	-.0745	MISS	+	-.0110	U.S.	R SQAR BAR=	.931	DURBIN WAT=	1.947
UIR			(2.94)	UR		(2.73)	UIR		(.88)	UIRL		(1.04)	TIME	AVER % ERR=	7.59	ESTIMATION=	OLS
MISR	1.10	+	.7514	MISR	+	.0153	U.S.	+	-.3791	MISR	+	-.1000	U.S.	R SQAR BAR=	.932	DURBIN WAT=	1.735
UIR			(13.47)	UR		(.79)	UICR		(4.34)	UIRL		(3.04)	TIME	AVER % ERR=	5.67	ESTIMATION=	OLS
MONT	-.85	+	.5050	MONT	+	.0799	U.S.	+	-.2146	U.S.				R SQAR BAR=	.669	DURBIN WAT=	1.364
UIR			(4.52)	UR		(1.62)	UICR		(2.67)	TIME				AVER % ERR=	11.30	ESTIMATION=	OLS
NEBR	-.89	+	.2367	NEBR	+	.2817	U.S.	+	.0232	U.S.				R SQAR BAR=	.932	DURBIN WAT=	1.113
UIR			(3.40)	UR		(5.52)	UIR		(4.50)	TIME				AVER % ERR=	7.59	ESTIMATION=	OLS
NEVA	-.31	+	.5812	NEVA	+	.0386	U.S.	+	-.2127	NEVA	+	-.0920	U.S.	R SQAR BAR=	.916	DURBIN WAT=	2.464
UIR			(12.44)	UR		(1.54)	UICR		(2.62)	UIRL		(2.20)	TIME	AVER % ERR=	4.22	ESTIMATION=	OLS
NHAM	-.53	+	.2043	NHAM	+	1.1136	U.S.	+	-.1582	NHAM	+	-.0349	U.S.	R SQAR BAR=	.958	DURBIN WAT=	1.519
UIR			(1.46)	UR		(6.21)	UIR		(1.81)	UIRL		(2.19)	TIME	AVER % ERR=	7.95	ESTIMATION=	OLS
NJER	1.51	+	.7318	NJER	+	.0390	U.S.	+	-.5513	NJER	+	-.1430	U.S.	R SQAR BAR=	.862	DURBIN WAT=	1.159
UIR			(7.80)	UR		(.93)	UICR		(3.18)	UIRL		(1.99)	TIME	AVER % ERR=	7.00	ESTIMATION=	OLS
NMEX	-.02	+	.2705	NMEX	+	.3788	U.S.	+	-.2129	NMEX				R SQAR BAR=	.869	DURBIN WAT=	1.444
UIR			(5.55)	UR		(6.42)	UIR		(1.60)	UIRL				AVER % ERR=	6.01	ESTIMATION=	OLS
NYOR	2.57	+	.6824	NYOR	+	.0392	U.S.	+	-.4102	NYOR	+	-.2100	U.S.	R SQAR BAR=	.907	DURBIN WAT=	1.238
UIR			(10.48)	UR		(1.30)	UICR		(3.53)	UIRL		(3.96)	TIME	AVER % ERR=	6.00	ESTIMATION=	OLS
NCAR	-.97	+	.2924	NCAR	+	.5308	U.S.							R SQAR BAR=	.901	DURBIN WAT=	1.604
UIR			(2.21)	UR		(1.97)	UIR							AVER % ERR=	11.25	ESTIMATION=	OLS

ESTIMATION FOR: UIR UNEMPLOYMENT RATE, INSURED (43) LAG DEPENDENT VARIABLE: UIRL

NDAK	.49	+	.0743	NDAK	+	.2088	U.S.							R SQAR BAR=	.532	DURBIN WAT=	1.043
UIR			(1.24)	UR		(4.14)	UIR							AVER % ERR=	7.75	ESTIMATION=	OLS
OHIO	-.39	+	.2345	OHIO	+	.8612	U.S.	+	-.1509	OHIO	+	-.0382	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.509
UIR			(3.82)	UR		(7.07)	UIR		(4.08)	UIRL		(6.38)	TIME	AVER % ERR=	4.35	ESTIMATION=	OLS
OKLA	-1.04	+	.6384	OKLA	+	.0205	U.S.	+	-.2109	OKLA	+	-.0551	U.S.	R SQAR BAR=	.955	DURBIN WAT=	1.316
UIR			(16.41)	UR		(2.02)	UICR		(3.06)	UIRL		(3.07)	TIME	AVER % ERR=	4.40	ESTIMATION=	OLS
OREG	-.10	+	.7208	OREG	+	.0255	U.S.	+	-.2851	OREG	+	-.1006	U.S.	R SQAR BAR=	.937	DURBIN WAT=	1.363
UIR			(12.93)	UR		(1.04)	UICR		(3.19)	UIRL		(2.38)	TIME	AVER % ERR=	5.74	ESTIMATION=	OLS
PENN	-3.12	+	.8468	PENN	+	.0384	U.S.	+	-.3563	PENN				R SQAR BAR=	.987	DURBIN WAT=	2.243
UIR			(26.75)	UR		(8.46)	UICR		(7.27)	UIRL				AVER % ERR=	4.05	ESTIMATION=	OLS
RHIS	-.46	+	.1690	RHIS	+	.9090	U.S.	+	-.0800	RHIS	+	.0543	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.589
UIR			(3.85)	UR		(6.43)	UIR		(2.21)	UIRL		(3.83)	TIME	AVER % ERR=	2.85	ESTIMATION=	C-O
SCAR	-2.76	+	.5804	SCAR	+	.0262	U.S.	+	-.1222	SCAR				R SQAR BAR=	.976	DURBIN WAT=	2.186
UIR			(20.92)	UR		(3.15)	UICR		(2.56)	UIRL				AVER % ERR=	6.54	ESTIMATION=	C-O
SDAK	-.66	+	.2097	SDAK	+	.2212	U.S.	+	.0129	U.S.				R SQAR BAR=	.828	DURBIN WAT=	1.109
UIR			(3.56)	UR		(6.22)	UIR		(2.24)	TIME				AVER % ERR=	10.21	ESTIMATION=	OLS
TENN	-2.36	+	.6718	TENN	+	.0251	U.S.	+	-.1320	TENN				R SQAR BAR=	.964	DURBIN WAT=	1.390
UIR			(19.46)	UR		(5.57)	UICR		(2.39)	UIRL				AVER % ERR=	5.04	ESTIMATION=	OLS
TEXA	.12	+	.1356	TEXA	+	.2953	U.S.	+	-.0247	U.S.				R SQAR BAR=	.994	DURBIN WAT=	2.734
UIR			(11.34)	UR		(18.40)	UIR		(14.16)	TIME				AVER % ERR=	2.11	ESTIMATION=	OLS
UTAH	-.18	+	.2503	UTAH	+	.3531	U.S.							R SQAR BAR=	.913	DURBIN WAT=	1.418
UIR			(3.52)	UR		(5.30)	UIR							AVER % ERR=	4.10	ESTIMATION=	C-O
VERM	-3.42	+	.6089	VERM	+	.0499	U.S.	+	-.2980	VERM				R SQAR BAR=	.969	DURBIN WAT=	2.505
UIR			(14.15)	UR		(3.84)	UICR		(4.01)	UIRL				AVER % ERR=	4.41	ESTIMATION=	C-O
VIRG	-.49	+	.2563	VIRG	+	.3116	U.S.	+	-.0203	U.S.				R SQAR BAR=	.960	DURBIN WAT=	1.765
UIR			(3.38)	UR		(3.26)	UIR		(4.11)	TIME				AVER % ERR=	7.87	ESTIMATION=	OLS
WASH	-.80	+	.5339	WASH	+	.5448	U.S.	+	-.1673	WASH				R SQAR BAR=	.950	DURBIN WAT=	2.080
UIR			(10.66)	UR		(6.40)	UIR		(2.12)	UIRL				AVER % ERR=	4.59	ESTIMATION=	OLS
WVIR	-.83	+	.2783	WVIR	+	.6020	U.S.							R SQAR BAR=	.939	DURBIN WAT=	1.131
UIR			(9.10)	UR		(5.59)	UIR							AVER % ERR=	7.38	ESTIMATION=	OLS
WISC	-.77	+	.3826	WISC	+	.5726	U.S.	+	-.0667	WISC				R SQAR BAR=	.958	DURBIN WAT=	1.515
UIR			(7.15)	UR		(8.37)	UIR		(1.18)	UIRL				AVER % ERR=	5.59	ESTIMATION=	OLS
WYOM	.26	+	.2837	WYOM	+	.2262	U.S.	+	-.0427	U.S.				R SQAR BAR=	.924	DURBIN WAT=	1.187
UIR			(6.22)	UR		(4.80)	UIR		(6.00)	TIME				AVER % ERR=	7.76	ESTIMATION=	OLS

ESTIMATION FOR: WMIN WAGE RATE, MINING (44) LAG DEPENDENT VARIABLE: WMIL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	-11.14	+	18.6123	U.S.	+	-.1124	U.S.	+	.2345	ALAB	R SQAR BAR=	.992	DURBIN WAT=	2.108
WMIN			(21.81)	DC		(2.35)	DCT2		(1.12)	WMIA	AVER % ERR=	2.71	ESTIMATION=	C-O
ALAS			E X O G E N O U S											
ARIS	-1.55	+	3.5484	U.S.	+	-.0661	U.S.	+	.8097	ARIZ	R SQAR BAR=	.989	DURBIN WAT=	1.982
WMIN			(2.86)	DC		(1.95)	DCT2		(6.51)	WMIL	AVER % ERR=	2.35	ESTIMATION=	OLS
ARKA	-4.63	+	8.2090	U.S.	+	.5063	ARKA				R SQAR BAR=	.926	DURBIN WAT=	1.978
WMIN			(3.41)	DC		(2.41)	WMIL				AVER % ERR=	6.86	ESTIMATION=	OLS
CALF	-3.96	+	8.4999	U.S.	+	.5349	CALF				R SQAR BAR=	.988	DURBIN WAT=	2.163
WMIN			(2.94)	DC		(2.37)	WMIL				AVER % ERR=	2.57	ESTIMATION=	OLS
COLO	-5.16	+	9.5486	U.S.	+	.5202	COLO				R SQAR BAR=	.980	DURBIN WAT=	1.391
WMIN			(3.82)	DC		(2.89)	WMIL				AVER % ERR=	4.01	ESTIMATION=	OLS
CONN			E X O G E N O U S											
DELA			E X O G E N O U S											
D.C.			E X O G E N O U S											
FLOR	-.97	+	2.8800	U.S.	+	.7760	FLOR				R SQAR BAR=	.972	DURBIN WAT=	1.298
WMIN			(.75)	DC		(1.95)	WMIL				AVER % ERR=	3.59	ESTIMATION=	OLS
GEOR	-2.57	+	5.6667	U.S.	+	.5168	GEOR				R SQAR BAR=	.991	DURBIN WAT=	2.382
WMIN			(2.76)	DC		(2.20)	WMIL				AVER % ERR=	2.73	ESTIMATION=	OLS
HAWA			E X O G E N O U S											
IDAH	-1.13	+	3.6234	U.S.	+	-.0501	U.S.	+	.7038	IDAH	R SQAR BAR=	.989	DURBIN WAT=	1.636
WMIN			(3.55)	DC		(1.87)	DCT2		(5.45)	WMIL	AVER % ERR=	2.06	ESTIMATION=	OLS
ILLI	-3.34	+	7.5000	U.S.	+	.5480	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.121
WMIN			(4.11)	DC		(4.60)	WMIN				AVER % ERR=	2.47	ESTIMATION=	OLS
INDI	-5.67	+	9.7486	U.S.	+	.5434	INDI				R SQAR BAR=	.981	DURBIN WAT=	2.221
WMIN			(2.93)	DC		(2.37)	WMIL				AVER % ERR=	3.96	ESTIMATION=	OLS
IOWA	-5.72	+	11.4402	U.S.	+	.2458	IOWA				R SQAR BAR=	.986	DURBIN WAT=	1.172
WMIN			(4.71)	DC		(1.26)	WMIL				AVER % ERR=	3.99	ESTIMATION=	OLS
KANS			E X O G E N O U S											

ESTIMATION FOR: WMIN WAGE RATE, MINING (44) LAG DEPENDENT VARIABLE: WMIL

KENT	-8.69	+	13.7391	U.S.	+	.3558	KENT			R SQAR BAR=	.986	DURBIN WAT=	1.631
WMIN			(4.06)	DC		(1.73)	WMIL			AVER % ERR=	4.13	ESTIMATION=	OLS
LOUS	-2.74	+	11.1424	U.S.	+	.3392	LOUS			R SQAR BAR=	.986	DURBIN WAT=	1.970
WMIN			(16.46)	DC		(1.33)	WMIA			AVER % ERR=	2.52	ESTIMATION=	OLS
MAIN			E X O G E N O U S										
MARY			E X O G E N O U S										
MASS			E X O G E N O U S										
MICH	-6.29	+	14.7978	U.S.	+	.6677	MICH			R SQAR BAR=	.988	DURBIN WAT=	1.629
WMIN			(40.85)	DC		(1.75)	WMIA			AVER % ERR=	2.91	ESTIMATION=	OLS
MINN	-3.33	+	8.0101	U.S.	+	-.0764	U.S.	+	.4746 MINN	R SQAR BAR=	.993	DURBIN WAT=	1.711
WMIN			(4.24)	DC		(2.24)	DCT2		(2.72) WMIL	AVER % ERR=	2.22	ESTIMATION=	OLS
MISS	-3.07	+	8.4125	U.S.	+	.2325	MISS			R SQAR BAR=	.913	DURBIN WAT=	1.994
WMIN			(4.08)	DC		(1.00)	WMIL			AVER % ERR=	5.74	ESTIMATION=	OLS
MISR	-2.57	+	4.1798	U.S.	+	.8347	MISR			R SQAR BAR=	.995	DURBIN WAT=	2.464
WMIN			(1.93)	DC		(4.59)	WMIL			AVER % ERR=	2.32	ESTIMATION=	OLS
MONT	-11.43	+	19.3469	U.S.	+	-.2266	U.S.			R SQAR BAR=	.941	DURBIN WAT=	1.507
WMIN			(9.88)	DC		(1.84)	DCT2			AVER % ERR=	7.35	ESTIMATION=	C-O
NEBR			E X O G E N O U S										
NEVA	-1.91	+	5.1168	U.S.	+	.6312	NEVA			R SQAR BAR=	.984	DURBIN WAT=	1.448
WMIN			(3.54)	DC		(3.94)	WMIL			AVER % ERR=	2.62	ESTIMATION=	OLS
NHAM			E X O G E N O U S										
NJER	-1.01	+	2.6013	U.S.	+	.8593	NJER			R SQAR BAR=	.982	DURBIN WAT=	2.509
WMIN			(1.34)	DC		(5.01)	WMIL			AVER % ERR=	3.35	ESTIMATION=	OLS
NMEX	-2.41	+	5.3511	U.S.	+	.6576	NMEX			R SQAR BAR=	.971	DURBIN WAT=	1.997
WMIN			(2.70)	DC		(3.04)	WMIL			AVER % ERR=	3.63	ESTIMATION=	OLS
NYOR	-5.78	+	14.3208	U.S.	+	.2024	U.S.			R SQAR BAR=	.974	DURBIN WAT=	1.222
WMIN			(3.31)	DC		(.72)	WMIN			AVER % ERR=	4.03	ESTIMATION=	OLS
NCAR	-1.99	+	4.4275	U.S.	+	.6457	NCAR			R SQAR BAR=	.976	DURBIN WAT=	2.521
WMIN			(3.09)	DC		(3.90)	WMIL			AVER % ERR=	3.87	ESTIMATION=	OLS

ESTIMATION FOR: WMIN WAGE RATE, MINING (44) LAG DEPENDENT VARIABLE: WMIL

NDAK	-7.28	+	11.1686	U.S.	+	.5286	NDAK			R SQAR BAR=	.914	DURBIN WAT=	2.107
WMIN			(3.53)	DC		(2.64)	WMIL			AVER % ERR=	8.90	ESTIMATION=	OLS
OHIO	-2.79	+	4.8169	U.S.	+	.7600	U.S.			R SQAR BAR=	.998	DURBIN WAT=	1.351
WMIN			(4.06)	DC		(9.81)	WMIN			AVER % ERR=	1.63	ESTIMATION=	OLS
OKLA	-5.04	+	8.2670	U.S.	+	.6358	OKLA			R SQAR BAR=	.935	DURBIN WAT=	2.225
WMIN			(2.73)	DC		(2.67)	WMIL			AVER % ERR=	6.88	ESTIMATION=	OLS
OREG			E X O G E N O U S										
PENN	-8.43	+	14.3594	U.S.	+	.3092	PENN			R SQAR BAR=	.982	DURBIN WAT=	1.633
WMIN			(4.28)	DC		(1.52)	WMIL			AVER % ERR=	4.20	ESTIMATION=	OLS
RHIS			E X O G E N O U S										
SCAR	-2.71	+	6.5315	U.S.	+	.3558	SCAR			R SQAR BAR=	.972	DURBIN WAT=	2.264
WMIN			(3.39)	DC		(1.50)	WMIL			AVER % ERR=	4.31	ESTIMATION=	OLS
SDAK	-2.70	+	6.0062	U.S.	+	.5527	SDAK			R SQAR BAR=	.994	DURBIN WAT=	2.092
WMIN			(3.38)	DC		(2.98)	WMIL			AVER % ERR=	1.98	ESTIMATION=	OLS
TENN	-4.52	+	6.8812	U.S.	+	.5208	U.S.			R SQAR BAR=	.994	DURBIN WAT=	1.681
WMIN			(3.83)	DC		(4.44)	WMIN			AVER % ERR=	2.75	ESTIMATION=	OLS
TEXA	-4.21	+	9.0862	U.S.	+	.4625	TEXA			R SQAR BAR=	.934	DURBIN WAT=	2.006
WMIN			(3.38)	DC		(2.10)	WMIL			AVER % ERR=	5.96	ESTIMATION=	OLS
UTAH	-4.35	+	12.5314	U.S.	+	-.0808	U.S.	+	.4021 UTAH	R SQAR BAR=	.983	DURBIN WAT=	1.399
WMIN			(20.81)	DC		(1.68)	DCT2		(1.53) WMIA	AVER % ERR=	3.27	ESTIMATION=	OLS
VERM			E X O G E N O U S										
VIRG	-7.87	+	11.1903	U.S.	+	.4511	U.S.			R SQAR BAR=	.996	DURBIN WAT=	1.168
WMIN			(6.76)	DC		(4.17)	WMIN			AVER % ERR=	2.56	ESTIMATION=	OLS
WASH	-1.53	+	7.1712	U.S.	+	-.0795	U.S.	+	.4350 U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.181
WMIN			(2.73)	DC		(1.67)	DCT2		(2.54) WMIN	AVER % ERR=	3.15	ESTIMATION=	OLS
WVIR	-3.76	+	7.0253	U.S.	+	.6190	U.S.			R SQAR BAR=	.996	DURBIN WAT=	1.265
WMIN			(4.44)	DC		(5.98)	WMIN			AVER % ERR=	2.03	ESTIMATION=	OLS
WISC	-5.26	+	11.3539	U.S.	+	-.1139	U.S.	+	.2610 U.S.	R SQAR BAR=	.975	DURBIN WAT=	1.727
WMIN			(2.99)	DC		(1.65)	DCT2		(1.05) WMIN	AVER % ERR=	4.63	ESTIMATION=	OLS
WYOM	-3.85	+	7.6697	U.S.	+	.5581	WYOM			R SQAR BAR=	.963	DURBIN WAT=	2.028
WMIN			(3.00)	DC		(2.44)	WMIL			AVER % ERR=	4.41	ESTIMATION=	OLS

ESTIMATION FOR: WCC WAGE RATE, CONTRACT CONSTRUCTION (45) LAG DEPENDENT VARIABLE: WCCL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	-.11	+	.0155	U.S.	+	.7967	ALAB	+	.0632	U.S.	+	.0076	ALAB	R SQAR BAR=	.995	DURBIN WAT=	1.396
WCC			(1.52)	DWCU		(4.22)	WCCL		(1.48)	DCPM		(1.20)	ECCP	AVER % ERR=	1.78	ESTIMATION=	OLS
ALAS			E X O G E N O U S														
ARIS	1.70	+	.0424	U.S.	+	.4254	ARIZ	+	-.0089	ARIS				R SQAR BAR=	.986	DURBIN WAT=	1.536
WCC			(1.91)	DWCU		(1.27)	WCCL		(1.34)	UT3				AVER % ERR=	2.59	ESTIMATION=	OLS
ARKA	.32	+	.0150	U.S.	+	.6872	ARKA	+	.1659	U.S.				R SQAR BAR=	.990	DURBIN WAT=	2.169
WCC			(1.66)	DWCU		(4.39)	WCCL		(3.29)	DCPM				AVER % ERR=	2.30	ESTIMATION=	OLS
CALF	1.78	+	.0245	U.S.	+	.2781	CALF	+	.1346	U.S.	+	.1930	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.251
WCC			(2.45)	DWCU		(1.51)	WCCL		(3.71)	DCPM		(4.33)	TIME	AVER % ERR=	1.02	ESTIMATION=	OLS
COLO	-1.22	+	4.5604	U.S.	+	.6267	COLO	+	.0177	COLO				R SQAR BAR=	.975	DURBIN WAT=	2.320
WCC			(2.15)	DC		(2.89)	WCCL		(1.40)	ECCP				AVER % ERR=	3.03	ESTIMATION=	OLS
CONN	-2.22	+	4.1937	U.S.	+	.9900	CONN	+	.9822	CONN				R SQAR BAR=	.991	DURBIN WAT=	1.264
WCC			(2.57)	DC		(5.15)	WCCL		(1.46)	WCCA				AVER % ERR=	1.93	ESTIMATION=	OLS
DELA	.66	+	.0186	U.S.	+	.7041	DELA	+	.0050	DELA				R SQAR BAR=	.992	DURBIN WAT=	1.716
WCC			(1.84)	DWCU		(3.75)	WCCL		(1.39)	ECCP				AVER % ERR=	1.86	ESTIMATION=	OLS
D.C.	.10	+	.0457	U.S.	+	.3903	D.C.	+	.0437	U.S.	+	.0159	D.C.	R SQAR BAR=	.995	DURBIN WAT=	1.515
WCC			(3.94)	DWCU		(2.32)	WCCL		(1.00)	DCPM		(2.17)	ECCP	AVER % ERR=	1.74	ESTIMATION=	OLS
FLOR	-3.29	+	4.0688	U.S.	+	.5760	FLOR	+	1.4591	FLOR				R SQAR BAR=	.988	DURBIN WAT=	1.751
WCC			(2.44)	DC		(3.38)	WCCL		(3.86)	WCCA				AVER % ERR=	2.71	ESTIMATION=	OLS
GEOR	-1.88	+	3.4193	U.S.	+	.7298	GEOR	+	.2297	GEOR				R SQAR BAR=	.996	DURBIN WAT=	1.419
WCC			(2.78)	DC		(4.99)	WCCL		(1.48)	WCCA				AVER % ERR=	1.55	ESTIMATION=	OLS
HAWA	-1.59	+	2.2897	U.S.	+	.5106	U.S.							R SQAR BAR=	.984	DURBIN WAT=	.526
WCC			(2.15)	DC		(9.87)	TIME							AVER % ERR=	3.38	ESTIMATION=	OLS
IDAH	1.59	+	.0221	U.S.	+	.5924	IDAH	+	.1303	U.S.				R SQAR BAR=	.986	DURBIN WAT=	1.540
WCC			(1.37)	DWCU		(2.74)	WCCL		(1.84)	DCPM				AVER % ERR=	2.46	ESTIMATION=	OLS
ILLI	.83	+	.0426	U.S.	+	.3249	ILLI	+	.0394	U.S.	+	.1180	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.247
WCC			(2.05)	DWCU		(1.17)	WCCL		(.81)	DCPM		(2.90)	TIME	AVER % ERR=	1.45	ESTIMATION=	OLS
INDI	2.44	+	.0417	U.S.	+	.4296	INDI	+	.0701	U.S.	+	-.0120	INDI	R SQAR BAR=	.996	DURBIN WAT=	1.545
WCC			(2.51)	DWCU		(1.82)	WCCL		(1.43)	DCPM		(1.88)	UT3	AVER % ERR=	1.47	ESTIMATION=	OLS
IOWA	-2.27	+	3.5526	U.S.	+	.8464	IOWA	+	.6307	IOWA				R SQAR BAR=	.996	DURBIN WAT=	1.676
WCC			(3.25)	DC		(8.63)	WCCL		(2.98)	WCCA				AVER % ERR=	1.50	ESTIMATION=	OLS
KANS	.17	+	.0396	U.S.	+	.3083	KANS	+	.0990	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.621
WCC			(3.91)	DWCU		(1.83)	WCCL		(2.36)	TIME				AVER % ERR=	1.11	ESTIMATION=	C-O

ESTIMATION FOR: WCC WAGE RATE, CONTRACT CONSTRUCTION (45) LAG DEPENDENT VARIABLE: WCCL

KENT	-.02	+	.0135	U.S.	+	.8567	KENT	+	.0401	U.S.	+	.0120	KENT	R SQAR BAR=	.997	DURBIN WAT=	1.466
WCC			(.91)	DWCU		(3.38)	WCCL		(1.05)	DCPM		(1.71)	ECCP	AVER % ERR=	1.13	ESTIMATION=	OLS
LOUS	-1.00	+	2.1912	U.S.	+	.8755	LOUS							R SQAR BAR=	.992	DURBIN WAT=	1.276
WCC			(2.31)	DC		(8.96)	WCCL							AVER % ERR=	2.42	ESTIMATION=	OLS
MAIN	.10	+	.0243	U.S.	+	.6944	MAIN	+	.0236	MAIN				R SQAR BAR=	.991	DURBIN WAT=	1.962
WCC			(2.42)	DWCU		(3.60)	WCCL		(2.90)	ECCP				AVER % ERR=	1.86	ESTIMATION=	OLS
MARY	1.32	+	.0389	U.S.	+	.2970	MARY	+	.1559	U.S.	+	.0155	MARY	R SQAR BAR=	.997	DURBIN WAT=	1.367
WCC			(2.40)	DWCU		(1.14)	WCCL		(4.14)	DCPM		(2.13)	ECCP	AVER % ERR=	1.22	ESTIMATION=	OLS
MASS	-1.63	+	2.3497	U.S.	+	.5009	U.S.							R SQAR BAR=	.995	DURBIN WAT=	1.066
WCC			(1.64)	DC		(4.60)	TIME							AVER % ERR=	1.45	ESTIMATION=	C-O
MICH	-4.64	+	16.1804	U.S.	+	.0209	MICH	+	-.0083	MICH				R SQAR BAR=	.985	DURBIN WAT=	1.350
WCC			(15.89)	DC		(1.23)	ECCP		(1.10)	UT3				AVER % ERR=	3.14	ESTIMATION=	C-O
MINN	1.10	+	.0154	U.S.	+	.3521	MINN	+	.1242	U.S.	+	.2127	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.891
WCC			(1.08)	DWCU		(1.29)	WCCL		(1.64)	DCPM		(2.55)	TIME	AVER % ERR=	2.04	ESTIMATION=	OLS
MISS	.58	+	.0160	U.S.	+	.5730	MISS	+	.0443	U.S.	+	.0325	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.851
WCC			(1.71)	DWCU		(2.43)	WCCL		(1.11)	DCPM		(1.18)	TIME	AVER % ERR=	2.07	ESTIMATION=	OLS
MISR	1.15	+	.0854	U.S.	+	.0097	MISR	+	-.0133	MISR				R SQAR BAR=	.998	DURBIN WAT=	1.542
WCC			(25.70)	DWCU		(1.23)	ECCP		(1.18)	UT3				AVER % ERR=	1.23	ESTIMATION=	C-O
MONT	-2.57	+	5.3151	U.S.	+	.7188	MONT							R SQAR BAR=	.989	DURBIN WAT=	1.162
WCC			(3.28)	DC		(4.80)	WCCL							AVER % ERR=	2.36	ESTIMATION=	OLS
NEBR	-2.72	+	5.4605	U.S.	+	.6989	NEBR							R SQAR BAR=	.988	DURBIN WAT=	1.549
WCC			(2.18)	DC		(3.01)	WCCL							AVER % ERR=	2.47	ESTIMATION=	OLS
NEVA	.92	+	.0183	U.S.	+	.5861	NEVA	+	.0863	U.S.	+	.0906	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.699
WCC			(1.47)	DWCU		(1.95)	WCCL		(1.35)	DCPM		(1.01)	TIME	AVER % ERR=	1.96	ESTIMATION=	OLS
NHAM	.65	+	.0130	U.S.	+	.8745	NHAM	+	-.0093	NHAM				R SQAR BAR=	.994	DURBIN WAT=	2.432
WCC			(1.04)	DWCU		(4.47)	WCCL		(2.03)	UT3				AVER % ERR=	1.80	ESTIMATION=	OLS
NJER	2.12	+	.0512	U.S.	+	.3545	NJER	+	.1845	U.S.	+	-.0116	NJER	R SQAR BAR=	.995	DURBIN WAT=	1.878
WCC			(2.67)	DWCU		(1.62)	WCCL		(3.40)	DCPM		(1.90)	UT3	AVER % ERR=	1.53	ESTIMATION=	OLS
NMEX	-.90	+	3.0813	U.S.	+	.7309	NMEX							R SQAR BAR=	.994	DURBIN WAT=	1.295
WCC			(4.47)	DC		(8.51)	WCCL							AVER % ERR=	1.75	ESTIMATION=	OLS
NYOR	2.93	+	.0840	U.S.	+	.0544	NYOR	+	-.0144	NYOR				R SQAR BAR=	.985	DURBIN WAT=	1.058
WCC			(19.00)	DWCU		(2.63)	ECCP		(1.18)	UT3				AVER % ERR=	2.65	ESTIMATION=	OLS
NCAR	-.92	+	.9153	U.S.	+	.9660	NCAR	+	.1716	NCAR				R SQAR BAR=	.998	DURBIN WAT=	1.908
WCC			(1.29)	DC		(10.41)	WCCL		(2.78)	WCCA				AVER % ERR=	1.28	ESTIMATION=	OLS

ESTIMATION FOR: WCC WAGE RATE, CONTRACT CONSTRUCTION (45) LAG DEPENDENT VARIABLE: WCCL

NDAK	.49	+	.0374	U.S.	+	.5141	NDAK						R SQAR BAR=	.986	DURBIN WAT= 1.796
WCC			(2.92)	DWCU		(2.68)	WCCL						AVER % ERR=	2.71	ESTIMATION= OLS
OHIO	.46	+	.0112	U.S.	+	.5929	OHIO	+	.1145	U.S.	+	.1413 U.S.	R SQAR BAR=	.996	DURBIN WAT= 2.147
WCC			(.80)	DWCU		(2.52)	WCCL		(2.70)	DCPM		(2.99) TIME	AVER % ERR=	1.51	ESTIMATION= OLS
OKLA	-1.35	+	2.4562	U.S.	+	.8579	OKLA	+	.1456	OKLA			R SQAR BAR=	.996	DURBIN WAT= 1.894
WCC			(1.49)	DC		(4.71)	WCCL		(1.31)	WCCA			AVER % ERR=	1.56	ESTIMATION= OLS
OREG	1.27	+	.0264	U.S.	+	.5970	OREG	+	.1310	U.S.			R SQAR BAR=	.996	DURBIN WAT= 1.816
WCC			(2.50)	DWCU		(3.82)	WCCL		(3.51)	DCPM			AVER % ERR=	1.21	ESTIMATION= OLS
PENN	2.31	+	.0184	U.S.	+	.7100	PENN	+	-.0099	PENN			R SQAR BAR=	.996	DURBIN WAT= 1.849
WCC			(1.47)	DWCU		(3.73)	WCCL		(3.43)	UT3			AVER % ERR=	1.54	ESTIMATION= OLS
RHIS	1.11	+	.0176	U.S.	+	.4221	RHIS	+	.1644	U.S.	+	.1248 U.S.	R SQAR BAR=	.998	DURBIN WAT= 1.752
WCC			(1.50)	DWCU		(2.12)	WCCL		(5.63)	DCPM		(4.46) TIME	AVER % ERR=	.97	ESTIMATION= OLS
SCAR	.28	+	.0170	U.S.	+	.6554	SCAR	+	.0467	U.S.			R SQAR BAR=	.993	DURBIN WAT= 1.541
WCC			(2.00)	DWCU		(2.95)	WCCL		(1.13)	DCPM			AVER % ERR=	2.01	ESTIMATION= OLS
SDAK	-.51	+	.0373	U.S.	+	.8538	SDAK	+	-.1125	U.S.			R SQAR BAR=	.975	DURBIN WAT= 2.156
WCC			(2.10)	DWCU		(4.08)	WCCL		(1.75)	TIME			AVER % ERR=	3.99	ESTIMATION= OLS
TENN	-1.75	+	3.3907	U.S.	+	.8009	TENN						R SQAR BAR=	.992	DURBIN WAT= 1.588
WCC			(2.12)	DC		(4.15)	WCCL						AVER % ERR=	2.34	ESTIMATION= OLS
TEXA	-2.11	+	4.4185	U.S.	+	.6491	TEXA	+	.2634	TEXA			R SQAR BAR=	.995	DURBIN WAT= 1.428
WCC			(3.48)	DC		(4.56)	WCCL		(1.24)	WCCA			AVER % ERR=	1.86	ESTIMATION= OLS
UTAH	.56	+	.0215	U.S.	+	.7141	UTAH						R SQAR BAR=	.990	DURBIN WAT= 1.839
WCC			(2.00)	DWCU		(3.71)	WCCL						AVER % ERR=	2.05	ESTIMATION= OLS
VERM	.24	+	.0246	U.S.	+	.6563	VERM						R SQAR BAR=	.990	DURBIN WAT= 1.629
WCC			(1.88)	DWCU		(3.05)	WCCL						AVER % ERR=	2.70	ESTIMATION= OLS
VIRG	-.95	+	1.5726	U.S.	+	.7852	VIRG	+	.5070	VIRG			R SQAR BAR=	.997	DURBIN WAT= 1.704
WCC			(1.69)	DC		(5.50)	WCCL		(2.42)	WCCA			AVER % ERR=	1.18	ESTIMATION= OLS
WASH	-2.35	+	5.3182	U.S.	+	.7354	WASH						R SQAR BAR=	.994	DURBIN WAT= 1.022
WCC			(3.96)	DC		(6.47)	WCCL						AVER % ERR=	1.67	ESTIMATION= OLS
WVIR	-1.38	+	4.7231	U.S.	+	.2892	U.S.						R SQAR BAR=	.937	DURBIN WAT= .690
WCC			(2.89)	DC		(4.22)	TIME						AVER % ERR=	6.62	ESTIMATION= OLS
WISC	.56	+	.0274	U.S.	+	.5914	WISC	+	.0579	U.S.			R SQAR BAR=	.996	DURBIN WAT= 1.605
WCC			(1.97)	DWCU		(2.71)	WCCL		(1.84)	TIME			AVER % ERR=	1.48	ESTIMATION= OLS
WYOM	.91	+	.0415	U.S.	+	.4459	WYOM						R SQAR BAR=	.974	DURBIN WAT= 1.493
WCC			(2.02)	DWCU		(1.53)	WCCL						AVER % ERR=	3.87	ESTIMATION= OLS

ESTIMATION FOR: WM WAGE RATE, MANUFACTURING, TOTAL (46) LAG DEPENDENT VARIABLE: WML

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	-.14	+	.0549	U.S.	+	.8795	ALAB	+	.6753	ALAB			R SQAR BAR=	.998	DURBIN WAT= 1.755
WM			(2.84)	DCPM		(11.12)	WML		(2.35)	WMA			AVER % ERR=	1.20	ESTIMATION= OLS
ALAS	2.08	+	.3627	U.S.	+	.3485	U.S.	+	.4300	ALAS			R SQAR BAR=	.969	DURBIN WAT= 1.963
WM			(2.48)	DCPM		(1.00)	WM		(1.87)	WML			AVER % ERR=	3.41	ESTIMATION= OLS
ARIS	-1.34	+	4.7423	U.S.	+	-.0495	U.S.	+	.6763	ARIZ	+	.5837 ARIZ	R SQAR BAR=	.998	DURBIN WAT= 1.263
WM			(6.16)	DC		(2.47)	DCT2		(2.14)	WMA		(6.89) WML	AVER % ERR=	1.16	ESTIMATION= OLS
ARKA	-2.12	+	5.2052	U.S.	+	.0387	U.S.	+	.8522	ARKA			R SQAR BAR=	.997	DURBIN WAT= 1.108
WM			(11.19)	DC		(1.58)	DPML		(6.44)	WMA			AVER % ERR=	1.37	ESTIMATION= OLS
CALF	-.26	+	5.4626	U.S.	+	-.0203	U.S.	+	.2062	U.S.			R SQAR BAR=	.999	DURBIN WAT= 1.668
WM			(35.69)	DC		(2.66)	DCT2		(32.20)	TIME			AVER % ERR=	.56	ESTIMATION= OLS
COLO	-1.81	+	7.2490	U.S.	+	-.0369	U.S.	+	.1344	U.S.			R SQAR BAR=	.998	DURBIN WAT= 1.123
WM			(28.24)	DC		(2.89)	DCT2		(12.51)	TIME			AVER % ERR=	.99	ESTIMATION= OLS
CONN			E X O G E N O U S												
DELA	-3.92	+	11.0342	U.S.	+	-.0256	U.S.	+	.1345	U.S.			R SQAR BAR=	.997	DURBIN WAT= 1.883
WM			(25.92)	DC		(1.21)	DCT2		(7.55)	TIME			AVER % ERR=	1.30	ESTIMATION= OLS
D.C.	-.58	+	.1470	U.S.	+	1.1515	D.C.	+	.6467	D.C.			R SQAR BAR=	.993	DURBIN WAT= 1.324
WM			(2.62)	DCPM		(9.98)	WML		(1.61)	WMA			AVER % ERR=	1.97	ESTIMATION= OLS
FLOR	-1.73	+	5.5650	U.S.	+	-.0359	U.S.	+	.1682	U.S.			R SQAR BAR=	.999	DURBIN WAT= 1.025
WM			(29.23)	DC		(3.80)	DCT2		(21.10)	TIME			AVER % ERR=	.95	ESTIMATION= OLS
GEOR	-2.22	+	5.1507	U.S.	+	-.0335	U.S.	+	.1585	U.S.			R SQAR BAR=	.998	DURBIN WAT= 1.774
WM			(14.07)	DC		(2.77)	DCT2		(9.11)	TIME			AVER % ERR=	1.23	ESTIMATION= C-O
HAWA	.19	+	.1933	U.S.	+	.3189	U.S.	+	.3844	HAWA	+	.1612 U.S.	R SQAR BAR=	.996	DURBIN WAT= 1.574
WM			(5.29)	DCPM		(2.69)	WML		(1.47)	WMA		(5.23) TIME	AVER % ERR=	1.34	ESTIMATION= OLS
IDAH	-.05	+	.0691	U.S.	+	.1514	U.S.	+	.8430	IDAH			R SQAR BAR=	.992	DURBIN WAT= 2.103
WM			(1.90)	DCPM		(1.21)	WM		(4.68)	WML			AVER % ERR=	1.75	ESTIMATION= OLS
ILLI	-1.79	+	3.9447	U.S.	+	-.0466	U.S.	+	.6447	ILLI	+	.7980 ILLI	R SQAR BAR=	.999	DURBIN WAT= 1.692
WM			(6.01)	DC		(4.38)	DCT2		(1.84)	WMA		(12.64) WML	AVER % ERR=	.79	ESTIMATION= OLS
INDI	-1.73	+	3.5712	U.S.	+	-.0031	U.S.	+	.4554	INDI	+	.8287 INDI	R SQAR BAR=	.999	DURBIN WAT= 2.309
WM			(4.21)	DC		(.25)	DCT2		(1.56)	WMA		(10.98) WML	AVER % ERR=	.95	ESTIMATION= OLS
IOWA	-2.62	+	7.9816	U.S.	+	-.0120	U.S.	+	.1182	U.S.			R SQAR BAR=	.999	DURBIN WAT= 1.109
WM			(35.50)	DC		(1.08)	DCT2		(12.57)	TIME			AVER % ERR=	.98	ESTIMATION= OLS
KANS	-1.09	+	6.6684	U.S.	+	-.0498	U.S.	+	.1075	U.S.			R SQAR BAR=	.998	DURBIN WAT= 1.695
WM			(14.33)	DC		(4.74)	DCT2		(4.25)	TIME			AVER % ERR=	.85	ESTIMATION= C-O

ESTIMATION FOR: WM WAGE RATE, MANUFACTURING, TOTAL (46) LAG DEPENDENT VARIABLE: WML

KENT	-1.64	+	3.8204	U.S.	+	-.0104	U.S.	+	.1723	KENT	+	.6854	KENT	R SQAR BAR=	.999	DURBIN WAT=	1.986
WM			(5.92)	DC		(1.23)	DCT2		(1.27)	WMA		(8.28)	WML	AVER % ERR=	.68	ESTIMATION=	OLS
LOUS	-3.14	+	8.4015	U.S.	+	-.0518	U.S.	+	.1179	U.S.				R SQAR BAR=	.999	DURBIN WAT=	1.387
WM			(18.78)	DC		(5.16)	DCT2		(4.84)	TIME				AVER % ERR=	.87	ESTIMATION=	C-O
MAIN	-.06	+	.0127	U.S.	+	.3643	U.S.	+	.5384	MAIN				R SQAR BAR=	.999	DURBIN WAT=	1.327
WM			(1.03)	DCPM		(2.90)	WM		(2.82)	WML				AVER % ERR=	.69	ESTIMATION=	OLS
MARY	-2.75	+	5.1636	U.S.	+	-.0272	U.S.	+	1.0984	MARY	+	.6854	MARY	R SQAR BAR=	.998	DURBIN WAT=	1.604
WM			(4.10)	DC		(1.79)	DCT2		(2.01)	WMA		(5.96)	WML	AVER % ERR=	1.20	ESTIMATION=	OLS
MASS	-2.01	+	5.7230	U.S.	+	-.0172	U.S.	+	.1947	U.S.				R SQAR BAR=	.999	DURBIN WAT=	1.425
WM			(17.31)	DC		(1.97)	DCT2		(11.58)	TIME				AVER % ERR=	.68	ESTIMATION=	C-O
MICH	-2.87	+	3.9631	U.S.	+	-.0584	U.S.	+	.5925	MICH	+	1.0804	MICH	R SQAR BAR=	.997	DURBIN WAT=	1.768
WM			(2.77)	DC		(2.04)	DCT2		(1.18)	WMA		(5.80)	WML	AVER % ERR=	1.52	ESTIMATION=	OLS
MINN	-1.01	+	2.1848	U.S.	+	-.0200	U.S.	+	.9658	MINN	+	.8921	MINN	R SQAR BAR=	.999	DURBIN WAT=	2.008
WM			(3.48)	DC		(1.76)	DCT2		(2.36)	WMA		(13.31)	WML	AVER % ERR=	.87	ESTIMATION=	OLS
MISS	-.40	+	.0779	U.S.	+	.8301	MISS	+	.5372	MISS				R SQAR BAR=	.996	DURBIN WAT=	1.991
WM			(3.03)	DCPM		(8.87)	WML		(2.44)	WMA				AVER % ERR=	1.61	ESTIMATION=	OLS
MISR	-2.50	+	7.2806	U.S.	+	-.0326	U.S.	+	.1488	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.197
WM			(30.21)	DC		(2.72)	DCT2		(14.75)	TIME				AVER % ERR=	1.05	ESTIMATION=	OLS
MONT	-2.46	+	8.4147	U.S.	+	-.0431	U.S.	+	.0642	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.383
WM			(18.96)	DC		(3.23)	DCT2		(2.97)	TIME				AVER % ERR=	1.04	ESTIMATION=	C-O
NEBR	-.87	+	3.1839	U.S.	+	-.0162	U.S.	+	.7180	NEBR	+	.6037	NEBR	R SQAR BAR=	.998	DURBIN WAT=	2.027
WM			(5.09)	DC		(1.22)	DCT2		(2.27)	WMA		(6.42)	WML	AVER % ERR=	1.01	ESTIMATION=	OLS
NEVA	.65	+	5.2989	U.S.	+	-.0582	U.S.	+	.1383	U.S.				R SQAR BAR=	.992	DURBIN WAT=	1.173
WM			(12.48)	DC		(2.76)	DCT2		(7.78)	TIME				AVER % ERR=	1.59	ESTIMATION=	OLS
NHAM	-.08	+	.0504	U.S.	+	.1793	U.S.	+	.7966	NHAM				R SQAR BAR=	.998	DURBIN WAT=	1.508
WM			(2.68)	DCPM		(.96)	WM		(3.19)	WML				AVER % ERR=	1.03	ESTIMATION=	OLS
NJER	-1.89	+	3.9500	U.S.	+	-.0193	U.S.	+	1.5433	NJER	+	.8347	NJER	R SQAR BAR=	.999	DURBIN WAT=	2.238
WM			(5.89)	DC		(1.41)	DCT2		(3.20)	WMA		(12.48)	WML	AVER % ERR=	.90	ESTIMATION=	OLS
NMEX	2.33	+	.0648	U.S.	+	.5860	NMEX	+	.4297	NMEX				R SQAR BAR=	.983	DURBIN WAT=	1.738
WM			(1.86)	DCPM		(10.29)	WML		(5.13)	WMA				AVER % ERR=	1.90	ESTIMATION=	C-O
NYOR	-2.20	+	6.9784	U.S.	+	-.0234	U.S.	+	.1920	U.S.				R SQAR BAR=	.999	DURBIN WAT=	1.437
WM			(21.63)	DC		(2.43)	DCT2		(12.18)	TIME				AVER % ERR=	.64	ESTIMATION=	C-O
NCAR	-.80	+	1.2222	U.S.	+	-.0202	U.S.	+	.9677	NCAR				R SQAR BAR=	.998	DURBIN WAT=	2.181
WM			(1.96)	DC		(1.92)	DCT2		(10.59)	WML				AVER % ERR=	1.33	ESTIMATION=	OLS

ESTIMATION FOR: WM WAGE RATE, MANUFACTURING, TOTAL (46) LAG DEPENDENT VARIABLE: WML

NDAK	-.37	+	.1495	U.S.	+	.9854	NDAK	+	.3284	NDAK				R SQAR BAR=	.979	DURBIN WAT=	2.010
WM			(2.17)	DCPM		(12.57)	WML		(1.25)	WMA				AVER % ERR=	4.21	ESTIMATION=	OLS
OHIO	-2.83	+	8.8123	U.S.	+	-.0233	U.S.	+	.1416	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.482
WM			(24.82)	DC		(1.32)	DCT2		(9.53)	TIME				AVER % ERR=	1.29	ESTIMATION=	OLS
OKLA	-1.52	+	6.4353	U.S.	+	-.0349	U.S.	+	.1158	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.799
WM			(15.69)	DC		(3.37)	DCT2		(5.45)	TIME				AVER % ERR=	.88	ESTIMATION=	C-O
OREG	-.30	+	.5110	U.S.	+	.5566	OREG							R SQAR BAR=	.999	DURBIN WAT=	1.490
WM			(3.42)	WM		(3.25)	WML							AVER % ERR=	.72	ESTIMATION=	OLS
PENN	-.20	+	.0761	U.S.	+	.1326	U.S.	+	.9162	PENN				R SQAR BAR=	.997	DURBIN WAT=	1.989
WM			(2.81)	DCPM		(.44)	WML		(2.99)	WML				AVER % ERR=	1.39	ESTIMATION=	OLS
RHIS	.14	+	.0553	U.S.	+	.3137	U.S.	+	.5883	RHIS				R SQAR BAR=	.998	DURBIN WAT=	1.302
WM			(3.27)	DCPM		(2.21)	WM		(3.00)	WML				AVER % ERR=	.91	ESTIMATION=	OLS
SCAR	-.58	+	.0237	U.S.	+	.4260	U.S.	+	.5376	SCAR				R SQAR BAR=	.997	DURBIN WAT=	2.149
WM			(1.07)	DCPM		(1.91)	WML		(1.73)	WML				AVER % ERR=	1.38	ESTIMATION=	OLS
SDAK	.81	+	.0677	U.S.	+	.7844	SDAK	+	.5482	SDAK				R SQAR BAR=	.988	DURBIN WAT=	2.144
WM			(1.76)	DCPM		(8.77)	WML		(2.50)	WMA				AVER % ERR=	2.34	ESTIMATION=	OLS
TENN	-2.04	+	5.3452	U.S.	+	-.0322	U.S.	+	.5316	TENN	+	.2937	TENN	R SQAR BAR=	.999	DURBIN WAT=	1.173
WM			(6.32)	DC		(2.02)	DCT2		(2.19)	WMA		(1.77)	WML	AVER % ERR=	.89	ESTIMATION=	OLS
TEXA	-1.73	+	7.2591	U.S.	+	-.0246	U.S.	+	.1033	U.S.				R SQAR BAR=	.999	DURBIN WAT=	1.906
WM			(46.13)	DC		(3.14)	DCT2		(15.69)	TIME				AVER % ERR=	.63	ESTIMATION=	OLS
UTAH	-.02	+	6.3055	U.S.	+	-.0367	U.S.	+	.0578	U.S.				R SQAR BAR=	.996	DURBIN WAT=	2.139
WM			(8.94)	DC		(2.51)	DCT2		(1.44)	TIME				AVER % ERR=	1.31	ESTIMATION=	C-O
VERM	-2.42	+	5.1774	U.S.	+	-.0246	U.S.	+	.2172	U.S.				R SQAR BAR=	.999	DURBIN WAT=	1.677
WM			(13.12)	DC		(2.49)	DCT2		(10.59)	TIME				AVER % ERR=	.91	ESTIMATION=	C-O
VIRG	-.48	+	.0553	U.S.	+	.8426	VIRG	+	1.0300	VIRG				R SQAR BAR=	.998	DURBIN WAT=	2.356
WM			(3.15)	DCPM		(6.03)	WML		(1.51)	WMA				AVER % ERR=	1.08	ESTIMATION=	OLS
WASH	-2.85	+	8.6234	U.S.	+	-.0404	U.S.	+	.1595	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.220
WM			(26.87)	DC		(2.53)	DCT2		(11.88)	TIME				AVER % ERR=	1.22	ESTIMATION=	OLS
WVIR	-2.61	+	8.3390	U.S.	+	-.0234	U.S.	+	.1028	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.012
WM			(28.76)	DC		(1.63)	DCT2		(8.47)	TIME				AVER % ERR=	1.21	ESTIMATION=	OLS
WISC	-1.83	+	3.3575	U.S.	+	-.0151	U.S.	+	1.2507	WISC	+	.8595	WISC	R SQAR BAR=	.999	DURBIN WAT=	2.165
WM			(7.35)	DC		(2.00)	DCT2		(3.10)	WMA		(20.00)	WML	AVER % ERR=	.57	ESTIMATION=	OLS
WYOM	-2.29	+	9.4112	U.S.	+	-.0894	U.S.	+	.0226	U.S.				R SQAR BAR=	.978	DURBIN WAT=	1.024
WM			(11.11)	DC		(2.12)	DCT2		(.64)	TIME				AVER % ERR=	3.51	ESTIMATION=	OLS

ESTIMATION FOR: WTCU WAGE RATE, TRANSPORTATION, COMMUNICATIONS & PUBLIC UTILITIES (47) LAG DEPENDENT VARIABLE: WTCL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	-1.18	+	2.0452	U.S.	+	-.0168	U.S.	+	.3374	ALAB	+	.8876	ALAB	R SQAR BAR=	.998	DURBIN WAT=	1.161
WTCU			(1.76)	DC		(1.12)	DCT2		(1.28)	WTCA		(6.81)	WTCL	AVER % ERR=	1.24	ESTIMATION=	OLS
ALAS	-7.20	+	28.1668	U.S.	+	-.2050	U.S.	+	-.5311	U.S.				R SQAR BAR=	.986	DURBIN WAT=	1.689
WTCU			(9.36)	DC		(2.75)	DCT2		(3.01)	TIME				AVER % ERR=	2.85	ESTIMATION=	C-O
ARIS	-1.40	+	2.6902	U.S.	+	-.0678	U.S.	+	.8878	ARIZ				R SQAR BAR=	.998	DURBIN WAT=	1.224
WTCU			(3.38)	DC		(4.12)	DCT2		(12.42)	WTCL				AVER % ERR=	1.29	ESTIMATION=	OLS
ARKA	-1.79	+	4.2242	U.S.	+	-.0368	U.S.	+	.2626	ARKA	+	.6669	ARKA	R SQAR BAR=	.998	DURBIN WAT=	1.637
WTCU			(3.40)	DC		(2.49)	DCT2		(1.61)	WTCA		(4.71)	WTCL	AVER % ERR=	1.19	ESTIMATION=	OLS
CALF	-3.36	+	8.3217	U.S.	+	-.0531	U.S.	+	.2391	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.344
WTCU			(14.78)	DC		(3.15)	DCT2		(8.69)	TIME				AVER % ERR=	.97	ESTIMATION=	C-O
COLO	-1.50	+	2.9386	U.S.	+	-.0258	U.S.	+	.8703	COLO				R SQAR BAR=	.999	DURBIN WAT=	1.324
WTCU			(4.30)	DC		(2.15)	DCT2		(14.39)	WTCL				AVER % ERR=	.97	ESTIMATION=	OLS
CONN	.26	+	.0407	U.S.	+	.3098	U.S.	+	.6591	CONN	+	.7799	CONN	R SQAR BAR=	.997	DURBIN WAT=	1.777
WTCU			(1.38)	DCPM		(1.06)	WTCU		(2.06)	WTCL		(1.20)	WTCA	AVER % ERR=	1.18	ESTIMATION=	OLS
DELA	-1.13	+	2.5977	U.S.	+	-.0428	U.S.	+	.7027	DELA	+	.7949	DELA	R SQAR BAR=	.997	DURBIN WAT=	1.763
WTCU			(2.36)	DC		(2.27)	DCT2		(3.23)	WTCA		(7.53)	WTCL	AVER % ERR=	1.59	ESTIMATION=	OLS
D.C.	-1.09	+	.1192	U.S.	+	1.0758	D.C.							R SQAR BAR=	.998	DURBIN WAT=	2.126
WTCU			(1.78)	WTCU		(17.19)	WTCL							AVER % ERR=	1.26	ESTIMATION=	C-O
FLOR	-1.26	+	2.7407	U.S.	+	-.0547	U.S.	+	.7640	FLOR	+	.8065	FLOR	R SQAR BAR=	.999	DURBIN WAT=	1.459
WTCU			(4.17)	DC		(4.65)	DCT2		(1.81)	WTCA		(10.49)	WTCL	AVER % ERR=	.87	ESTIMATION=	OLS
GEOR	-2.85	+	5.2377	U.S.	+	-.0437	U.S.	+	.5304	GEOR	+	.6839	GEOR	R SQAR BAR=	.999	DURBIN WAT=	2.056
WTCU			(7.45)	DC		(3.78)	DCT2		(3.25)	WTCA		(11.00)	WTCL	AVER % ERR=	.66	ESTIMATION=	OLS
HAWA	-3.42	+	7.7435	U.S.	+	-.0981	U.S.	+	.2285	U.S.				R SQAR BAR=	.997	DURBIN WAT=	2.110
WTCU			(16.09)	DC		(4.54)	DCT2		(9.62)	TIME				AVER % ERR=	1.20	ESTIMATION=	OLS
IDAH	-.42	+	1.2284	U.S.	+	-.0196	U.S.	+	.6514	IDAH	+	.8979	IDAH	R SQAR BAR=	.998	DURBIN WAT=	1.873
WTCU			(1.44)	DC		(1.36)	DCT2		(2.19)	WTCA		(12.44)	WTCL	AVER % ERR=	1.14	ESTIMATION=	OLS
ILLI	-4.02	+	9.8437	U.S.	+	-.0106	U.S.	+	.1733	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.035
WTCU			(18.15)	DC		(.39)	DCT2		(7.64)	TIME				AVER % ERR=	1.71	ESTIMATION=	OLS
INDI	-1.24	+	2.2485	U.S.	+	-.0476	U.S.	+	.9278	INDI				R SQAR BAR=	.998	DURBIN WAT=	1.564
WTCU			(2.76)	DC		(3.08)	DCT2		(12.72)	WTCL				AVER % ERR=	1.23	ESTIMATION=	OLS
IOWA	-.95	+	1.3350	U.S.	+	-.0113	U.S.	+	.7967	IOWA	+	.9725	IOWA	R SQAR BAR=	1.000	DURBIN WAT=	2.094
WTCU			(3.36)	DC		(1.63)	DCT2		(6.50)	WTCA		(27.83)	WTCL	AVER % ERR=	.53	ESTIMATION=	OLS
KANS	-1.34	+	2.4641	U.S.	+	-.0270	U.S.	+	.9043	KANS				R SQAR BAR=	.997	DURBIN WAT=	1.957
WTCU			(2.13)	DC		(1.47)	DCT2		(8.68)	WTCL				AVER % ERR=	1.50	ESTIMATION=	OLS

ESTIMATION FOR: WTCU WAGE RATE, TRANSPORTATION, COMMUNICATIONS & PUBLIC UTILITIES (47) LAG DEPENDENT VARIABLE: WTCL

KENT	-1.76	+	4.0948	U.S.	+	-.0185	U.S.	+	.5386	KENT	+	.7008	KENT	R SQAR BAR=	.997	DURBIN WAT=	1.845
WTCU			(3.27)	DC		(1.05)	DCT2		(2.92)	WTCA		(5.68)	WTCL	AVER % ERR=	1.41	ESTIMATION=	OLS
LOUS	-1.72	+	3.5584	U.S.	+	-.0187	U.S.	+	.6729	LOUS	+	.6864	LOUS	R SQAR BAR=	.999	DURBIN WAT=	1.340
WTCU			(5.64)	DC		(1.61)	DCT2		(2.71)	WTCA		(8.06)	WTCL	AVER % ERR=	.66	ESTIMATION=	OLS
MAIN	-.64	+	.9953	U.S.	+	-.0406	U.S.	+	.7495	MAIN	+	.9338	MAIN	R SQAR BAR=	.999	DURBIN WAT=	1.171
WTCU			(1.45)	DC		(3.54)	DCT2		(3.71)	WTCA		(16.12)	WTCL	AVER % ERR=	.95	ESTIMATION=	OLS
MARY	-.23	+	.7461	U.S.	+	.2269	MARY							R SQAR BAR=	.999	DURBIN WAT=	1.541
WTCU			(6.35)	WTCU		(1.62)	WTCL							AVER % ERR=	.92	ESTIMATION=	OLS
MASS	-3.48	+	7.8781	U.S.	+	-.0542	U.S.	+	.2112	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.512
WTCU			(22.48)	DC		(3.12)	DCT2		(14.40)	TIME				AVER % ERR=	1.15	ESTIMATION=	OLS
MICH	-3.87	+	9.5367	U.S.	+	-.0579	U.S.	+	.1923	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.397
WTCU			(15.99)	DC		(1.95)	DCT2		(7.70)	TIME				AVER % ERR=	1.91	ESTIMATION=	OLS
MINN	-3.15	+	8.7402	U.S.	+	-.0489	U.S.	+	.1632	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.282
WTCU			(18.04)	DC		(2.03)	DCT2		(8.05)	TIME				AVER % ERR=	1.65	ESTIMATION=	OLS
MISS	-1.31	+	3.1036	U.S.	+	-.0350	U.S.	+	.4615	MISS	+	.6957	MISS	R SQAR BAR=	.998	DURBIN WAT=	1.840
WTCU			(4.22)	DC		(2.53)	DCT2		(1.45)	WTCA		(5.66)	WTCL	AVER % ERR=	1.02	ESTIMATION=	OLS
MISR	-1.33	+	2.2893	U.S.	+	-.0488	U.S.	+	.9387	MISR				R SQAR BAR=	.999	DURBIN WAT=	1.056
WTCU			(2.75)	DC		(3.32)	DCT2		(13.62)	WTCL				AVER % ERR=	1.15	ESTIMATION=	OLS
MONT	-1.80	+	4.3044	U.S.	+	-.0155	U.S.	+	.4808	MONT	+	.7006	MONT	R SQAR BAR=	.998	DURBIN WAT=	1.453
WTCU			(3.65)	DC		(1.04)	DCT2		(1.69)	WTCA		(5.66)	WTCL	AVER % ERR=	1.07	ESTIMATION=	OLS
NEBR	-.23	+	.0759	U.S.	+	1.0399	NEBR	+	.4466	NEBR				R SQAR BAR=	.998	DURBIN WAT=	1.388
WTCU			(2.54)	DCPM		(36.93)	WTCL		(2.31)	WTCA				AVER % ERR=	1.33	ESTIMATION=	OLS
NEVA	-1.32	+	2.8966	U.S.	+	-.0261	U.S.	+	.8519	NEVA				R SQAR BAR=	.999	DURBIN WAT=	2.135
WTCU			(5.38)	DC		(1.96)	DCT2		(17.71)	WTCL				AVER % ERR=	.99	ESTIMATION=	OLS
NHAM	-1.38	+	1.8746	U.S.	+	-.0378	U.S.	+	.5440	NHAM	+	.9212	NHAM	R SQAR BAR=	.998	DURBIN WAT=	2.482
WTCU			(2.14)	DC		(2.48)	DCT2		(2.22)	WTCA		(11.80)	WTCL	AVER % ERR=	1.18	ESTIMATION=	OLS
NJER	-1.35	+	2.4835	U.S.	+	-.0228	U.S.	+	.9138	NJER				R SQAR BAR=	.999	DURBIN WAT=	2.034
WTCU			(4.00)	DC		(1.92)	DCT2		(17.45)	WTCL				AVER % ERR=	.82	ESTIMATION=	OLS
NMEX	-1.41	+	4.2218	U.S.	+	-.0548	U.S.	+	.9767	NMEX	+	.5294	NMEX	R SQAR BAR=	1.000	DURBIN WAT=	2.047
WTCU			(10.86)	DC		(6.97)	DCT2		(6.81)	WTCA		(10.08)	WTCL	AVER % ERR=	.52	ESTIMATION=	OLS
NYOR	-4.57	+	10.8509	U.S.	+	-.0186	U.S.	+	.1663	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.059
WTCU			(19.20)	DC		(.66)	DCT2		(7.03)	TIME				AVER % ERR=	1.71	ESTIMATION=	OLS
NCAR	-1.32	+	2.5891	U.S.	+	-.0335	U.S.	+	.5502	NCAR	+	.7850	NCAR	R SQAR BAR=	.999	DURBIN WAT=	1.717
WTCU			(3.72)	DC		(3.01)	DCT2		(2.25)	WTCA		(9.00)	WTCL	AVER % ERR=	.93	ESTIMATION=	OLS

ESTIMATION FOR: WTCU WAGE RATE, TRANSPORTATION, COMMUNICATIONS & PUBLIC UTILITIES (47) LAG DEPENDENT VARIABLE: WTCL

NDAK	-2.19	+	5.0737	U.S.	+	-.0372	U.S.	+	.2744	NDAK	+	.6433	NDAK	R SQAR BAR=	.999	DURBIN WAT=	1.302
WTCU			(5.68)	DC		(2.54)	DCT2		(1.61)	WTCA		(7.04)	WTCL	AVER % ERR=	.91	ESTIMATION=	OLS
OHIO	-3.55	+	9.5303	U.S.	+	-.0454	U.S.	+	.1505	U.S.				R SQAR BAR=	.992	DURBIN WAT=	1.433
WTCU			(14.98)	DC		(1.44)	DCT2		(5.65)	TIME				AVER % ERR=	1.83	ESTIMATION=	OLS
OKLA	-1.30	+	2.3083	U.S.	+	-.0175	U.S.	+	.9212	OKLA				R SQAR BAR=	.999	DURBIN WAT=	1.157
WTCU			(3.55)	DC		(1.58)	DCT2		(15.89)	WTCL				AVER % ERR=	.95	ESTIMATION=	OLS
OREG	-1.25	+	2.1565	U.S.	+	-.0448	U.S.	+	.9428	OREG				R SQAR BAR=	.999	DURBIN WAT=	1.760
WTCU			(5.11)	DC		(5.28)	DCT2		(25.33)	WTCL				AVER % ERR=	.63	ESTIMATION=	OLS
PENN	-3.89	+	9.5777	U.S.	+	-.0190	U.S.	+	.1473	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.197
WTCU			(16.86)	DC		(.67)	DCT2		(6.19)	TIME				AVER % ERR=	1.89	ESTIMATION=	OLS
RHIS	-1.36	+	2.7206	U.S.	+	-.0294	U.S.	+	.8674	RHIS				R SQAR BAR=	.998	DURBIN WAT=	1.990
WTCU			(3.56)	DC		(1.94)	DCT2		(12.10)	WTCL				AVER % ERR=	1.27	ESTIMATION=	OLS
SCAR	-1.11	+	1.4600	U.S.	+	-.0214	U.S.	+	.6669	SCAR	+	.8521	SCAR	R SQAR BAR=	.999	DURBIN WAT=	1.110
WTCU			(2.30)	DC		(1.92)	DCT2		(2.13)	WTCA		(10.48)	WTCL	AVER % ERR=	.98	ESTIMATION=	OLS
SDAK	-1.45	+	3.3949	U.S.	+	-.0469	U.S.	+	.5393	SDAK	+	.6942	SDAK	R SQAR BAR=	.998	DURBIN WAT=	2.270
WTCU			(3.86)	DC		(2.83)	DCT2		(2.75)	WTCA		(8.03)	WTCL	AVER % ERR=	1.18	ESTIMATION=	OLS
TENN	-1.84	+	3.7029	U.S.	+	-.0317	U.S.	+	.5404	TENN	+	.7377	TENN	R SQAR BAR=	.998	DURBIN WAT=	1.897
WTCU			(3.39)	DC		(2.40)	DCT2		(2.40)	WTCA		(6.29)	WTCL	AVER % ERR=	1.10	ESTIMATION=	OLS
TEXA	-1.55	+	2.7995	U.S.	+	-.0273	U.S.	+	.8776	TEXA				R SQAR BAR=	.998	DURBIN WAT=	1.500
WTCU			(3.10)	DC		(1.96)	DCT2		(10.25)	WTCL				AVER % ERR=	1.19	ESTIMATION=	OLS
UTAH	-1.08	+	1.8856	U.S.	+	-.0288	U.S.	+	.6250	UTAH	+	.9242	UTAH	R SQAR BAR=	.998	DURBIN WAT=	1.090
WTCU			(2.10)	DC		(1.83)	DCT2		(1.82)	WTCA		(10.82)	WTCL	AVER % ERR=	1.22	ESTIMATION=	OLS
VERM	-.09	+	.4559	U.S.	+	.5482	VERM							R SQAR BAR=	.998	DURBIN WAT=	1.972
WTCU			(4.83)	WTCU		(4.82)	WTCL							AVER % ERR=	1.23	ESTIMATION=	OLS
VIRG	-1.25	+	2.0574	U.S.	+	-.0238	U.S.	+	.6933	VIRG	+	.8729	VIRG	R SQAR BAR=	.998	DURBIN WAT=	1.119
WTCU			(2.41)	DC		(1.77)	DCT2		(2.20)	WTCA		(9.55)	WTCL	AVER % ERR=	1.04	ESTIMATION=	OLS
WASH	-1.98	+	3.5896	U.S.	+	-.0652	U.S.	+	.4400	WASH	+	.8831	WASH	R SQAR BAR=	.999	DURBIN WAT=	1.935
WTCU			(4.48)	DC		(4.26)	DCT2		(1.60)	WTCA		(11.99)	WTCL	AVER % ERR=	.91	ESTIMATION=	OLS
WVIR	-1.01	+	1.6620	U.S.	+	-.0333	U.S.	+	.9717	WVIR				R SQAR BAR=	.999	DURBIN WAT=	1.226
WTCU			(2.85)	DC		(3.06)	DCT2		(18.56)	WTCL				AVER % ERR=	.88	ESTIMATION=	OLS
WISC	-.65	+	1.3050	U.S.	+	-.0309	U.S.	+	.8979	WISC	+	.9254	WISC	R SQAR BAR=	.999	DURBIN WAT=	1.490
WTCU			(2.89)	DC		(3.92)	DCT2		(4.78)	WTCA		(22.26)	WTCL	AVER % ERR=	.63	ESTIMATION=	OLS
WYOM	-1.42	+	2.4742	U.S.	+	-.0062	U.S.	+	.3041	WYOM	+	.9064	WYOM	R SQAR BAR=	.998	DURBIN WAT=	1.383
WTCU			(3.01)	DC		(.42)	DCT2		(2.25)	WTCA		(12.57)	WTCL	AVER % ERR=	1.07	ESTIMATION=	OLS

ESTIMATION FOR: WWRT WAGE RATE, WHOLESALE & RETAIL TRADE (48) LAG DEPENDENT VARIABLE: WWRL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	.83	+	4.6262	U.S.	+	.6915	U.S.	+	-1.1145	ALAB				R SQAR BAR=	.989	DURBIN WAT=	.953
WWRT			(8.03)	DC		(1.88)	DXMW		(2.54)	UX3				AVER % ERR=	1.92	ESTIMATION=	OLS
ALAS	2.75	+	5.7143	U.S.	+	1.6658	U.S.	+	-1.0359	ALAS				R SQAR BAR=	.987	DURBIN WAT=	1.627
WWRT			(6.76)	DC		(2.79)	DXMW		(6.06)	UX3				AVER % ERR=	1.75	ESTIMATION=	OLS
ARIS	.93	+	4.2044	U.S.	+	.9453	U.S.	+	-.9215	ARIZ				R SQAR BAR=	.989	DURBIN WAT=	1.125
WWRT			(8.49)	DC		(2.67)	DXMW		(3.32)	UX3				AVER % ERR=	1.74	ESTIMATION=	OLS
ARKA	.12	+	4.4811	U.S.	+	.9600	U.S.	+	-.7209	ARKA				R SQAR BAR=	.992	DURBIN WAT=	1.226
WWRT			(7.71)	DC		(2.65)	DXMW		(1.54)	UX3				AVER % ERR=	1.63	ESTIMATION=	OLS
CALF	2.14	+	3.6339	U.S.	+	-.2540	CALF	+	.0864	U.S.				R SQAR BAR=	.999	DURBIN WAT=	2.117
WWRT			(11.35)	DC		(1.42)	UX3		(5.31)	TIME				AVER % ERR=	.50	ESTIMATION=	C-O
COLO	-.26	+	2.6477	U.S.	+	.2528	U.S.	+	-.2320	COLO	+	.5871	COLO	R SQAR BAR=	.999	DURBIN WAT=	3.131
WWRT			(4.91)	DC		(1.54)	DXMW		(2.00)	UX3		(8.10)	WWRL	AVER % ERR=	.54	ESTIMATION=	OLS
CONN	-.13	+	.9218	U.S.	+	.8984	CONN							R SQAR BAR=	.992	DURBIN WAT=	1.979
WWRT			(1.36)	DC		(6.69)	WWRL							AVER % ERR=	1.45	ESTIMATION=	OLS
DELA	1.35	+	3.3515	U.S.	+	-.6448	DELA	+	.0771	U.S.				R SQAR BAR=	.990	DURBIN WAT=	1.207
WWRT			(11.99)	DC		(2.01)	UX3		(6.65)	TIME				AVER % ERR=	1.53	ESTIMATION=	OLS
D.C.	-.35	+	3.5090	U.S.	+	.1771	U.S.							R SQAR BAR=	.994	DURBIN WAT=	1.980
WWRT			(6.22)	DCM		(6.83)	TIME							AVER % ERR=	1.45	ESTIMATION=	C-O
FLOR	.09	+	1.6916	U.S.	+	-.5154	FLOR	+	.7871	FLOR				R SQAR BAR=	.996	DURBIN WAT=	1.831
WWRT			(2.26)	DC		(2.90)	UX3		(5.68)	WWRL				AVER % ERR=	1.19	ESTIMATION=	OLS
GEOR	-.42	+	2.3790	U.S.	+	.4314	U.S.	+	-.3352	GEOR	+	.6389	GEOR	R SQAR BAR=	.999	DURBIN WAT=	2.058
WWRT			(3.61)	DC		(3.10)	DXMW		(2.01)	UX3		(5.46)	WWRL	AVER % ERR=	.58	ESTIMATION=	OLS
HAWA	-.36	+	.6292	U.S.	+	.3644	U.S.	+	.8877	HAWA				R SQAR BAR=	.999	DURBIN WAT=	1.974
WWRT			(2.12)	DC		(3.12)	DXMW		(13.03)	WWRL				AVER % ERR=	.56	ESTIMATION=	OLS
IDAH	.43	+	3.2330	U.S.	+	.5126	U.S.	+	.2265	IDAH				R SQAR BAR=	.995	DURBIN WAT=	1.830
WWRT			(5.78)	DC		(2.23)	DXMW		(1.50)	WWRL				AVER % ERR=	.99	ESTIMATION=	OLS
ILLI	.50	+	4.5162	U.S.	+	.0981	U.S.							R SQAR BAR=	.997	DURBIN WAT=	1.480
WWRT			(11.49)	DCM		(5.16)	TIME							AVER % ERR=	.85	ESTIMATION=	C-O
INDI	1.10	+	4.1900	U.S.	+	.4898	U.S.	+	-.4138	INDI				R SQAR BAR=	.996	DURBIN WAT=	1.263
WWRT			(8.27)	DC		(1.50)	DXMW		(2.03)	UX3				AVER % ERR=	1.02	ESTIMATION=	C-O
IOWA	.35	+	5.0062	U.S.	+	.3473	U.S.	+	-.4261	IOWA				R SQAR BAR=	.998	DURBIN WAT=	2.218
WWRT			(20.58)	DC		(2.01)	DXMW		(1.99)	UX3				AVER % ERR=	.78	ESTIMATION=	OLS
KANS	.53	+	4.3550	U.S.	+	-.7857	KANS	+	.0699	U.S.				R SQAR BAR=	.998	DURBIN WAT=	2.206
WWRT			(12.11)	DC		(2.77)	UX3		(4.06)	TIME				AVER % ERR=	.83	ESTIMATION=	C-O

ESTIMATION FOR: WWRT WAGE RATE, WHOLESALE & RETAIL TRADE (48) LAG DEPENDENT VARIABLE: WWRL

KENT	.52	+	4.6118	U.S.	+	.5927	U.S.	+	-.3889	KENT	R SQAR BAR=	.985	DURBIN WAT= .822
WWRT			(7.69)	DCM		(1.46)	DXMW		(1.84)	UX3	AVER % ERR=	1.93	ESTIMATION= OLS
LOUS	.61	+	3.3724	U.S.	+	-.2365	LOUS	+	.1085	U.S.	R SQAR BAR=	.998	DURBIN WAT= 1.139
WWRT			(13.67)	DC		(1.59)	UX3		(10.26)	TIME	AVER % ERR=	.98	ESTIMATION= OLS
MAIN	-.07	+	1.7615	U.S.	+	.3253	U.S.	+	.6176	MAIN	R SQAR BAR=	.992	DURBIN WAT= 1.811
WWRT			(2.42)	DC		(.93)	DXMW		(3.05)	WWRL	AVER % ERR=	1.39	ESTIMATION= OLS
MARY	.01	+	3.5786	U.S.	+	.1270	U.S.				R SQAR BAR=	.999	DURBIN WAT= 1.451
WWRT			(9.58)	DCM		(5.65)	TIME				AVER % ERR=	.75	ESTIMATION= C-O
MASS	.47	+	3.4377	U.S.	+	.1039	U.S.				R SQAR BAR=	.996	DURBIN WAT= 1.131
WWRT			(17.28)	DCM		(13.38)	TIME				AVER % ERR=	.96	ESTIMATION= OLS
MICH	.52	+	4.1975	U.S.	+	.1110	U.S.				R SQAR BAR=	.995	DURBIN WAT= 1.087
WWRT			(15.98)	DCM		(10.83)	TIME				AVER % ERR=	1.23	ESTIMATION= OLS
MINN	.14	+	1.0236	U.S.	+	.7963	U.S.	+	.6553	MINN	R SQAR BAR=	.984	DURBIN WAT= 2.032
WWRT			(1.50)	DCM		(1.60)	DXMW		(4.42)	WWRL	AVER % ERR=	1.82	ESTIMATION= OLS
MISS	.80	+	3.4799	U.S.	+	1.2943	U.S.	+	-.8333	MISS	R SQAR BAR=	.992	DURBIN WAT= 1.134
WWRT			(6.83)	DC		(4.10)	DXMW		(3.40)	UX3	AVER % ERR=	1.90	ESTIMATION= OLS
MISR	-.42	+	.7571	U.S.	+	.1503	U.S.	+	.9431	MISR	R SQAR BAR=	.999	DURBIN WAT= 2.863
WWRT			(2.43)	DC		(1.03)	DXMW		(14.23)	WWRL	AVER % ERR=	.58	ESTIMATION= OLS
MONT	.06	+	4.0924	U.S.	+	-.3011	MONT	+	.3152	MONT	R SQAR BAR=	.991	DURBIN WAT= 2.490
WWRT			(4.16)	DC		(1.45)	UX3		(1.46)	WWRL	AVER % ERR=	1.65	ESTIMATION= OLS
NEBR	-.10	+	3.3893	U.S.	+	.4257	NEBR				R SQAR BAR=	.997	DURBIN WAT= 1.705
WWRT			(4.53)	DC		(2.59)	WWRL				AVER % ERR=	1.05	ESTIMATION= OLS
NEVA	2.17	+	3.6127	U.S.	+	-.2007	NEVA	+	.0507	U.S.	R SQAR BAR=	.993	DURBIN WAT= 1.657
WWRT			(15.30)	DC		(1.79)	UX3		(5.15)	TIME	AVER % ERR=	1.04	ESTIMATION= OLS
NHAM	-.05	+	1.6741	U.S.	+	-.3562	NHAM	+	.7565	NHAM	R SQAR BAR=	.997	DURBIN WAT= 1.753
WWRT			(4.03)	DC		(2.39)	UX3		(8.55)	WWRL	AVER % ERR=	1.01	ESTIMATION= OLS
NJER	-.56	+	2.5372	U.S.	+	.3875	U.S.	+	.6363	NJER	R SQAR BAR=	.997	DURBIN WAT= 1.993
WWRT			(2.40)	DCM		(1.71)	DXMW		(3.80)	WWRL	AVER % ERR=	1.05	ESTIMATION= OLS
NMEX	.99	+	3.8039	U.S.	+	-.2233	NMEX	+	.0427	U.S.	R SQAR BAR=	.997	DURBIN WAT= 1.648
WWRT			(16.12)	DCM		(1.57)	UX3		(3.53)	TIME	AVER % ERR=	.88	ESTIMATION= OLS
NYOR	.93	+	3.9256	U.S.	+	-.3837	NYOR	+	.1550	U.S.	R SQAR BAR=	.999	DURBIN WAT= 1.319
WWRT			(12.33)	DCM		(1.84)	UX3		(10.05)	TIME	AVER % ERR=	.68	ESTIMATION= C-O
NCAR	.33	+	4.9840	U.S.	+	.5810	U.S.	+	-.6053	NCAR	R SQAR BAR=	.994	DURBIN WAT= 1.010
WWRT			(12.05)	DC		(2.02)	DXMW		(3.22)	UX3	AVER % ERR=	1.66	ESTIMATION= OLS

ESTIMATION FOR: WWRT WAGE RATE, WHOLESALE & RETAIL TRADE (48) LAG DEPENDENT VARIABLE: WWRL

NDAK	-.38	+	4.0741	U.S.	+	.3685	NDAK											R SQAR BAR=	.987	DURBIN WAT=	1.821
WWRT			(2.91)	DCM		(1.41)	WWRL											AVER % ERR=	1.82	ESTIMATION=	OLS
OHIO	1.08	+	3.5958	U.S.	+	-.3333	OHIO	+	.0941	U.S.								R SQAR BAR=	.999	DURBIN WAT=	2.284
WWRT			(46.42)	DC		(4.64)	UX3		(28.73)	TIME								AVER % ERR=	.39	ESTIMATION=	OLS
OKLA	2.14	+	3.4750	U.S.	+	-1.7590	OKLA	+	.0872	U.S.								R SQAR BAR=	.987	DURBIN WAT=	1.502
WWRT			(4.17)	DCM		(1.79)	UX3		(2.91)	TIME								AVER % ERR=	2.17	ESTIMATION=	OLS
OREG	1.38	+	4.8623	U.S.	+	.5179	U.S.	+	-.3772	OREG								R SQAR BAR=	.994	DURBIN WAT=	.989
WWRT			(12.80)	DC		(1.84)	DXMW		(1.58)	UX3								AVER % ERR=	1.16	ESTIMATION=	OLS
PENN	.43	+	1.5055	U.S.	+	-.2705	PENN	+	.7551	PENN								R SQAR BAR=	.997	DURBIN WAT=	1.375
WWRT			(2.62)	DC		(2.21)	UX3		(6.26)	WWRL								AVER % ERR=	.89	ESTIMATION=	OLS
RHIS	.75	+	3.8665	U.S.	+	1.0780	U.S.	+	-.3763	RHIS								R SQAR BAR=	.981	DURBIN WAT=	.772
WWRT			(5.00)	DCM		(2.16)	DXMW		(1.82)	UX3								AVER % ERR=	1.89	ESTIMATION=	OLS
SCAR	.17	+	.8011	U.S.	+	.7339	U.S.	+	.6651	SCAR								R SQAR BAR=	.985	DURBIN WAT=	1.696
WWRT			(1.42)	DC		(1.35)	DXMW		(3.28)	WWRL								AVER % ERR=	1.72	ESTIMATION=	OLS
SDAK	-.52	+	3.8845	U.S.	+	.3552	SDAK											R SQAR BAR=	.996	DURBIN WAT=	1.400
WWRT			(5.02)	DC		(2.19)	WWRL											AVER % ERR=	1.30	ESTIMATION=	OLS
TENN	-.04	+	4.5882	U.S.	+	1.0519	U.S.	+	-.4670	TENN								R SQAR BAR=	.995	DURBIN WAT=	1.973
WWRT			(12.11)	DC		(4.25)	DXMW		(2.77)	UX3								AVER % ERR=	1.31	ESTIMATION=	OLS
TEXA	-.27	+	5.4909	U.S.	+	.7180	U.S.	+	-.6295	TEXA								R SQAR BAR=	.991	DURBIN WAT=	.730
WWRT			(9.49)	DCM		(2.02)	DXMW		(1.63)	UX3								AVER % ERR=	1.74	ESTIMATION=	OLS
UTAH	-.09	+	1.5855	U.S.	+	.7328	UTAH											R SQAR BAR=	.996	DURBIN WAT=	1.625
WWRT			(2.61)	DC		(4.96)	WWRL											AVER % ERR=	.83	ESTIMATION=	OLS
VERM	.80	+	3.3186	U.S.	+	-.2877	VERM	+	.0934	U.S.								R SQAR BAR=	.990	DURBIN WAT=	.975
WWRT			(9.96)	DCM		(1.19)	UX3		(6.88)	TIME								AVER % ERR=	1.76	ESTIMATION=	OLS
VIRG	.05	+	5.1581	U.S.	+	.5571	U.S.	+	-1.0588	VIRG								R SQAR BAR=	.990	DURBIN WAT=	1.011
WWRT			(10.47)	DC		(1.65)	DXMW		(1.60)	UX3								AVER % ERR=	1.85	ESTIMATION=	OLS
WASH	-.21	+	2.3614	U.S.	+	.2209	U.S.	+	-.0513	WASH	+	.6614	WASH					R SQAR BAR=	.999	DURBIN WAT=	2.516
WWRT			(5.73)	DC		(1.43)	DXMW		(.81)	UX3		(7.81)	WWRL					AVER % ERR=	.61	ESTIMATION=	OLS
WVIR	.05	+	4.1839	U.S.	+	-.1386	WVIR	+	.0698	U.S.								R SQAR BAR=	.997	DURBIN WAT=	1.827
WWRT			(22.93)	DC		(2.03)	UX3		(9.98)	TIME								AVER % ERR=	.96	ESTIMATION=	OLS
WISC	1.17	+	4.0641	U.S.	+	-.4802	WISC	+	.0403	U.S.								R SQAR BAR=	.997	DURBIN WAT=	1.257
WWRT			(19.77)	DC		(1.04)	UX3		(2.84)	TIME								AVER % ERR=	.84	ESTIMATION=	OLS
WYOM	1.39	+	3.7979	U.S.	+	.4875	U.S.	+	-.6552	WYOM								R SQAR BAR=	.974	DURBIN WAT=	1.391
WWRT			(3.78)	DCM		(.84)	DXMW		(1.90)	UX3								AVER % ERR=	2.50	ESTIMATION=	OLS

ESTIMATION FOR: WFIR WAGE RATE, FINANCE, INSURANCE & REAL ESTATE (49) LAG DEPENDENT VARIABLE: WFIL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	1.58	+	5.6765	U.S.	+	-.0294	U.S.	+	.0079	ALAB				R SQAR BAR=	.995	DURBIN WAT=	1.380
WFIR			(11.21)	DC		(2.05)	DCT2		(2.54)	QCCP				AVER % ERR=	1.42	ESTIMATION=	C-O
ALAS	.63	+	4.0892	U.S.	+	.6965	ALAS	+	.5476	ALAS				R SQAR BAR=	.983	DURBIN WAT=	2.513
WFIR			(3.10)	DCM		(4.16)	WFIL		(2.34)	WFRA				AVER % ERR=	2.01	ESTIMATION=	OLS
ARIS	2.24	+	4.8581	U.S.	+	-.0410	U.S.	+	.0695	U.S.	+	.0093	ARIZ	R SQAR BAR=	.981	DURBIN WAT=	1.198
WFIR			(9.25)	DC		(1.66)	DCT2		(3.22)	TIME		(2.56)	QCCP	AVER % ERR=	1.91	ESTIMATION=	OLS
ARKA	-.15	+	2.2454	U.S.	+	-.0286	U.S.	+	.7171	ARKA	+	.3500	ARKA	R SQAR BAR=	.994	DURBIN WAT=	1.152
WFIR			(2.49)	DC		(1.89)	DCT2		(4.22)	WFIL		(1.57)	WFRA	AVER % ERR=	1.29	ESTIMATION=	OLS
CALF	3.10	+	5.7275	U.S.	+	-.0588	U.S.	+	.0138	CALF				R SQAR BAR=	.982	DURBIN WAT=	1.379
WFIR			(9.27)	DC		(2.15)	DCT2		(1.36)	QCCP				AVER % ERR=	2.01	ESTIMATION=	C-O
COLO	1.24	+	1.3862	U.S.	+	-.0918	U.S.	+	.7659	COLO	+	1.2462	COLO	R SQAR BAR=	.992	DURBIN WAT=	1.838
WFIR			(2.13)	DC		(4.13)	DCT2		(9.24)	WFIL		(3.68)	WFRA	AVER % ERR=	1.42	ESTIMATION=	OLS
CONN	-.27	+	2.0251	U.S.	+	.8434	CONN	+	.5469	CONN				R SQAR BAR=	.992	DURBIN WAT=	2.206
WFIR			(2.37)	DCM		(8.30)	WFIL		(2.09)	WFRA				AVER % ERR=	1.44	ESTIMATION=	OLS
DELA	-.48	+	1.9779	U.S.	+	.5876	DELA	+	.0092	DELA	+	.8044	DELA	R SQAR BAR=	.992	DURBIN WAT=	2.779
WFIR			(2.56)	DCM		(3.84)	WFRA		(3.97)	QCCP		(8.08)	WFIL	AVER % ERR=	1.61	ESTIMATION=	OLS
D.C.	-3.16	+	5.6077	U.S.	+	.2311	U.S.	+	.0038	D.C.				R SQAR BAR=	.996	DURBIN WAT=	2.125
WFIR			(9.74)	DC		(8.45)	TIME		(.76)	QCCP				AVER % ERR=	1.58	ESTIMATION=	C-O
FLOR	.13	+	1.9606	U.S.	+	.4356	FLOR	+	.0056	FLOR	+	.7460	FLOR	R SQAR BAR=	.986	DURBIN WAT=	1.460
WFIR			(1.64)	DCM		(1.57)	WFRA		(.96)	QCCP		(4.33)	WFIL	AVER % ERR=	1.94	ESTIMATION=	OLS
GEOR	-1.62	+	2.9870	U.S.	+	.6159	GEOR	+	.0104	GEOR	+	.7958	GEOR	R SQAR BAR=	.996	DURBIN WAT=	1.762
WFIR			(4.01)	DCM		(2.58)	WFRA		(2.12)	QCCP		(9.33)	WFIL	AVER % ERR=	1.25	ESTIMATION=	OLS
HAWA	.01	+	2.5236	U.S.	+	-.0354	U.S.	+	.2772	U.S.	+	.0054	HAWA	R SQAR BAR=	.996	DURBIN WAT=	1.438
WFIR			(2.74)	DC		(1.83)	DCT2		(4.75)	TIME		(1.76)	QCCP	AVER % ERR=	1.03	ESTIMATION=	C-O
IDAH	.06	+	2.2373	U.S.	+	-.0473	U.S.	+	.7136	IDAH	+	.3493	IDAH	R SQAR BAR=	.988	DURBIN WAT=	1.121
WFIR			(3.10)	DC		(1.65)	DCT2		(5.63)	WFIL		(1.07)	WFRA	AVER % ERR=	1.84	ESTIMATION=	OLS
ILLI	-1.18	+	1.6468	U.S.	+	-.0414	U.S.	+	.9768	ILLI	+	.8596	ILLI	R SQAR BAR=	.997	DURBIN WAT=	2.060
WFIR			(3.01)	DC		(2.97)	DCT2		(16.37)	WFIL		(2.57)	WFRA	AVER % ERR=	1.09	ESTIMATION=	OLS
INDI	-.33	+	.7195	U.S.	+	-.0216	U.S.	+	.9774	INDI	+	.0057	INDI	R SQAR BAR=	.995	DURBIN WAT=	1.522
WFIR			(1.39)	DC		(1.52)	DCT2		(12.34)	WFIL		(1.51)	QCCP	AVER % ERR=	1.29	ESTIMATION=	OLS
IOWA	-.19	+	2.7764	U.S.	+	-.0358	U.S.	+	.6536	IOWA	+	.3437	IOWA	R SQAR BAR=	.996	DURBIN WAT=	1.427
WFIR			(4.91)	DC		(2.80)	DCT2		(5.19)	WFIL		(1.76)	WFRA	AVER % ERR=	1.14	ESTIMATION=	OLS
KANS	.27	+	2.4496	U.S.	+	.6722	KANS	+	.0094	KANS	+	.6546	KANS	R SQAR BAR=	.994	DURBIN WAT=	1.648
WFIR			(4.02)	DCM		(2.36)	WFRA		(1.57)	QCCP		(6.58)	WFIL	AVER % ERR=	1.30	ESTIMATION=	OLS

ESTIMATION FOR: WFIR WAGE RATE, FINANCE, INSURANCE & REAL ESTATE (49) LAG DEPENDENT VARIABLE: WFIL

KENT	-.28	+	1.4855	U.S.	+	-.0312	U.S.	+	.7975	KENT	+	.6143	KENT	R SQAR BAR=	.996	DURBIN WAT=	1.712
WFIR			(3.12)	DC		(2.09)	DCT2		(8.86)	WFIL		(1.85)	WFRA	AVER % ERR=	1.29	ESTIMATION=	OLS
LOUS	.08	+	1.0660	U.S.	+	-.0903	U.S.	+	.7598	LOUS	+	1.7502	LOUS	R SQAR BAR=	.995	DURBIN WAT=	2.056
WFIR			(1.94)	DC		(4.17)	DCT2		(10.19)	WFIL		(3.15)	WFRA	AVER % ERR=	1.29	ESTIMATION=	OLS
MAIN	-1.05	+	2.5702	U.S.	+	.7097	MAIN	+	.5089	MAIN				R SQAR BAR=	.995	DURBIN WAT=	1.717
WFIR			(2.13)	DCM		(4.08)	WFIL		(1.96)	WFRA				AVER % ERR=	1.56	ESTIMATION=	OLS
MARY	-.36	+	4.7045	U.S.	+	-.0346	U.S.	+	.1480	U.S.	+	.0043	MARY	R SQAR BAR=	.998	DURBIN WAT=	1.710
WFIR			(20.35)	DC		(3.18)	DCT2		(15.09)	TIME		(1.31)	QCCP	AVER % ERR=	.85	ESTIMATION=	OLS
MASS	-1.42	+	6.0782	U.S.	+	.7905	MASS	+	.0116	MASS	+	.1857	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.397
WFIR			(16.27)	DCM		(2.52)	WFRA		(2.38)	QCCP		(14.72)	TIME	AVER % ERR=	.86	ESTIMATION=	OLS
MICH	-.47	+	1.5189	U.S.	+	-.0223	U.S.	+	.8932	MICH	+	.0064	MICH	R SQAR BAR=	.994	DURBIN WAT=	1.924
WFIR			(2.07)	DC		(1.22)	DCT2		(8.73)	WFIL		(1.36)	QCCP	AVER % ERR=	1.41	ESTIMATION=	OLS
MINN	-.31	+	1.5906	U.S.	+	.8505	MINN	+	.0162	MINN				R SQAR BAR=	.992	DURBIN WAT=	1.969
WFIR			(3.06)	DC		(11.91)	WFIL		(1.87)	QCCP				AVER % ERR=	1.65	ESTIMATION=	OLS
MISS	-.11	+	1.2838	U.S.	+	-.0340	U.S.	+	.8368	MISS	+	.4873	MISS	R SQAR BAR=	.988	DURBIN WAT=	1.481
WFIR			(1.61)	DC		(1.44)	DCT2		(6.73)	WFIL		(1.86)	WFRA	AVER % ERR=	1.99	ESTIMATION=	OLS
MISR	-1.38	+	3.5666	U.S.	+	.9471	MISR	+	.0095	MISR	+	.6286	MISR	R SQAR BAR=	.994	DURBIN WAT=	1.826
WFIR			(4.32)	DCM		(2.26)	WFRA		(1.43)	QCCP		(5.57)	WFIL	AVER % ERR=	1.45	ESTIMATION=	OLS
MONT	-.34	+	1.8980	U.S.	+	.8253	MONT							R SQAR BAR=	.986	DURBIN WAT=	2.042
WFIR			(2.89)	DCM		(8.49)	WFIL							AVER % ERR=	1.89	ESTIMATION=	OLS
NEBR	-.49	+	1.4921	U.S.	+	-.0374	U.S.	+	.8749	NEBR	+	.3808	NEBR	R SQAR BAR=	.997	DURBIN WAT=	2.006
WFIR			(3.73)	DC		(3.37)	DCT2		(14.45)	WFIL		(2.06)	WFRA	AVER % ERR=	.95	ESTIMATION=	OLS
NEVA	1.49	+	2.3109	U.S.	+	.2003	NEVA	+	.0018	NEVA	+	.6024	NEVA	R SQAR BAR=	.944	DURBIN WAT=	1.793
WFIR			(1.40)	DCM		(1.13)	WFRA		(.47)	QCCP		(2.36)	WFIL	AVER % ERR=	2.98	ESTIMATION=	OLS
NHAM	2.28	+	2.5092	U.S.	+	.1524	U.S.	+	.0041	NHAM				R SQAR BAR=	.995	DURBIN WAT=	1.376
WFIR			(9.41)	DC		(13.26)	TIME		(1.23)	QCCP				AVER % ERR=	1.09	ESTIMATION=	OLS
NJER	.08	+	.4968	U.S.	+	-.0513	U.S.	+	1.0342	NJER	+	1.7698	NJER	R SQAR BAR=	.995	DURBIN WAT=	2.050
WFIR			(.90)	DC		(3.04)	DCT2		(14.14)	WFIL		(4.35)	WFRA	AVER % ERR=	1.19	ESTIMATION=	OLS
NMEX	-.18	+	1.2139	U.S.	+	-.0243	U.S.	+	.8751	NMEX	+	.0051	NMEX	R SQAR BAR=	.991	DURBIN WAT=	1.788
WFIR			(2.44)	DC		(1.47)	DCT2		(10.45)	WFIL		(1.31)	QCCP	AVER % ERR=	1.50	ESTIMATION=	OLS
NYOR	-1.63	+	6.0023	U.S.	+	-.0369	U.S.	+	.2340	U.S.	+	.0148	NYOR	R SQAR BAR=	.994	DURBIN WAT=	1.372
WFIR			(9.87)	DC		(1.56)	DCT2		(10.41)	TIME		(1.43)	QCCP	AVER % ERR=	1.67	ESTIMATION=	OLS
NCAR	-.41	+	1.9440	U.S.	+	-.0273	U.S.	+	.7539	NCAR	+	.4631	NCAR	R SQAR BAR=	.996	DURBIN WAT=	1.539
WFIR			(2.98)	DC		(2.21)	DCT2		(6.40)	WFIL		(1.96)	WFRA	AVER % ERR=	1.17	ESTIMATION=	OLS

ESTIMATION FOR: WFIR WAGE RATE, FINANCE, INSURANCE & REAL ESTATE (49) LAG DEPENDENT VARIABLE: WFIL

NDAK	-.66	+	3.5493	U.S.	+	-.0804	U.S.	+	.6374	NDAK				R SQAR BAR=	.986	DURBIN WAT=	1.265
WFIR			(5.47)	DC		(3.07)	DCT2		(6.80)	WFIL				AVER % ERR=	2.37	ESTIMATION=	OLS
OHIO	.85	+	2.7494	U.S.	+	.6439	OHIO	+	.0053	OHIO	+	.2118	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.573
WFIR			(4.78)	DCM		(1.76)	WFRA		(1.53)	QCCP		(8.31)	TIME	AVER % ERR=	.94	ESTIMATION=	C-O
OKLA	1.02	+	1.5402	U.S.	+	-.0460	U.S.	+	.6655	OKLA	+	.7095	OKLA	R SQAR BAR=	.987	DURBIN WAT=	1.653
WFIR			(2.21)	DC		(2.03)	DCT2		(5.04)	WFIL		(1.66)	WFRA	AVER % ERR=	1.63	ESTIMATION=	OLS
OREG	2.01	+	3.6099	U.S.	+	.1486	OREG	+	.0058	OREG	+	.3039	OREG	R SQAR BAR=	.988	DURBIN WAT=	1.690
WFIR			(4.67)	DCM		(1.34)	WFRA		(1.18)	QCCP		(1.68)	WFIL	AVER % ERR=	1.20	ESTIMATION=	OLS
PENN	-.49	+	4.9924	U.S.	+	.3018	PENN	+	.0103	PENN	+	.1588	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.499
WFIR			(16.46)	DCM		(.84)	WFRA		(1.86)	QCCP		(12.99)	TIME	AVER % ERR=	.91	ESTIMATION=	OLS
RHIS	.18	+	3.8929	U.S.	+	.1856	U.S.	+	.0155	RHIS				R SQAR BAR=	.994	DURBIN WAT=	1.440
WFIR			(10.02)	DC		(11.75)	TIME		(1.70)	QCCP				AVER % ERR=	1.58	ESTIMATION=	OLS
SCAR	.06	+	2.4224	U.S.	+	.2539	U.S.	+	.0045	SCAR				R SQAR BAR=	.993	DURBIN WAT=	2.226
WFIR			(2.53)	DC		(5.10)	TIME		(.76)	QCCP				AVER % ERR=	1.68	ESTIMATION=	C-O
SDAK	.23	+	5.0686	U.S.	+	-.0411	U.S.	+	.1115	U.S.	+	.0036	SDAK	R SQAR BAR=	.994	DURBIN WAT=	.966
WFIR			(14.99)	DC		(2.49)	DCT2		(8.01)	TIME		(1.46)	QCCP	AVER % ERR=	1.35	ESTIMATION=	OLS
TENN	-.79	+	7.6535	U.S.	+	-.0684	U.S.	+	.0138	TENN				R SQAR BAR=	.985	DURBIN WAT=	1.329
WFIR			(17.27)	DC		(2.46)	DCT2		(1.79)	QCCP				AVER % ERR=	2.14	ESTIMATION=	C-O
TEXA	.97	+	3.6387	U.S.	+	-.0427	U.S.	+	.1654	U.S.	+	.0136	TEXA	R SQAR BAR=	.993	DURBIN WAT=	.987
WFIR			(9.74)	DC		(2.35)	DCT2		(10.79)	TIME		(1.80)	QCCP	AVER % ERR=	1.64	ESTIMATION=	OLS
UTAH	2.44	+	4.4761	U.S.	+	-.0427	U.S.	+	.0053	UTAH				R SQAR BAR=	.991	DURBIN WAT=	1.716
WFIR			(8.58)	DC		(2.32)	DCT2		(1.33)	QCCP				AVER % ERR=	1.74	ESTIMATION=	C-O
VERM	1.50	+	1.4235	U.S.	+	.2771	U.S.							R SQAR BAR=	.992	DURBIN WAT=	2.070
WFIR			(1.96)	DC		(7.52)	TIME							AVER % ERR=	1.50	ESTIMATION=	C-O
VIRG	.24	+	4.4104	U.S.	+	-.0205	U.S.	+	.1224	U.S.	+	.0068	VIRG	R SQAR BAR=	.997	DURBIN WAT=	1.638
WFIR			(18.58)	DC		(1.82)	DCT2		(12.28)	TIME		(1.75)	QCCP	AVER % ERR=	1.06	ESTIMATION=	OLS
WASH	-.11	+	1.9949	U.S.	+	-.0511	U.S.	+	.7786	WASH	+	.0137	WASH	R SQAR BAR=	.984	DURBIN WAT=	1.834
WFIR			(3.13)	DC		(2.15)	DCT2		(7.27)	WFIL		(1.92)	QCCP	AVER % ERR=	1.87	ESTIMATION=	OLS
WVIR	-.61	+	3.3745	U.S.	+	.2439	WVIR	+	.0035	WVIR	+	.5686	WVIR	R SQAR BAR=	.993	DURBIN WAT=	1.952
WFIR			(4.21)	DCM		(1.19)	WFRA		(1.16)	QCCP		(4.11)	WFIL	AVER % ERR=	1.55	ESTIMATION=	OLS
WISC	.12	+	1.8957	U.S.	+	.7977	WISC	+	.0120	WISC	+	.7191	WISC	R SQAR BAR=	.993	DURBIN WAT=	1.366
WFIR			(3.13)	DCM		(1.80)	WFRA		(1.78)	QCCP		(7.35)	WFIL	AVER % ERR=	1.50	ESTIMATION=	OLS
WYOM	-.08	+	1.8880	U.S.	+	.7983	WYOM	+	.2244	WYOM				R SQAR BAR=	.956	DURBIN WAT=	2.300
WFIR			(1.15)	DCM		(3.53)	WFIL		(1.23)	WFRA				AVER % ERR=	2.64	ESTIMATION=	OLS

ESTIMATION FOR: WSER WAGE RATE, SERVICES (50) LAG DEPENDENT VARIABLE: WSEL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1959 TO 1976 IN STATES: ALAS HAWA

ALAB	-1.47	+	2.8810	U.S.	+	-.4267	ALAB	+	.1757	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.665
WSER			(6.20)	DCM		(1.83)	UX3		(6.56)	TIME				AVER % ERR=	1.38	ESTIMATION=	C-0
ALAS	-2.38	+	4.6340	U.S.	+	2.2892	U.S.	+	-1.0837	ALAS	+	.5585	ALAS	R SQAR BAR=	.980	DURBIN WAT=	1.554
WSER			(2.12)	DC		(1.70)	DXMW		(2.91)	UX3		(2.68)	WSEL	AVER % ERR=	3.89	ESTIMATION=	OLS
ARIS	-.92	+	4.6386	U.S.	+	2.8134	U.S.	+	-2.0750	ARIZ				R SQAR BAR=	.977	DURBIN WAT=	1.027
WSER			(3.99)	DCM		(3.64)	DXMW		(3.44)	UX3				AVER % ERR=	3.94	ESTIMATION=	OLS
ARKA	-.28	+	2.2988	U.S.	+	.7323	U.S.	+	-.8199	ARKA	+	.4689	ARKA	R SQAR BAR=	.995	DURBIN WAT=	1.962
WSER			(2.18)	DC		(2.16)	DXMW		(1.86)	UX3		(2.06)	WSEL	AVER % ERR=	1.72	ESTIMATION=	OLS
CALF	-.64	+	1.3019	U.S.	+	.3763	U.S.	+	.8720	CALF				R SQAR BAR=	.998	DURBIN WAT=	1.939
WSER			(2.91)	DCM		(1.47)	DXMW		(11.16)	WSEL				AVER % ERR=	.82	ESTIMATION=	OLS
COLO	-1.79	+	4.1586	U.S.	+	.3224	U.S.	+	.5272	COLO				R SQAR BAR=	.999	DURBIN WAT=	2.083
WSER			(7.17)	DCM		(1.88)	DXMW		(6.45)	WSEL				AVER % ERR=	.87	ESTIMATION=	OLS
CONN	-.79	+	3.3135	U.S.	+	.2420	U.S.							R SQAR BAR=	.997	DURBIN WAT=	2.245
WSER			(5.70)	DCM		(8.39)	TIME							AVER % ERR=	1.25	ESTIMATION=	C-0
DELA	-.22	+	1.7544	U.S.	+	.2408	U.S.							R SQAR BAR=	.996	DURBIN WAT=	1.512
WSER			(2.69)	DCM		(6.49)	TIME							AVER % ERR=	1.36	ESTIMATION=	C-0
D.C.	-3.75	+	7.5363	U.S.	+	.1181	U.S.							R SQAR BAR=	.991	DURBIN WAT=	1.041
WSER			(13.59)	DCM		(5.46)	TIME							AVER % ERR=	2.75	ESTIMATION=	OLS
FLOR	-1.37	+	4.9420	U.S.	+	-.6338	FLOR	+	.1330	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.202
WSER			(11.62)	DC		(2.56)	UX3		(6.71)	TIME				AVER % ERR=	1.16	ESTIMATION=	C-0
GEOR	-2.26	+	6.5602	U.S.	+	.7245	U.S.	+	-1.0872	GEOR				R SQAR BAR=	.993	DURBIN WAT=	1.059
WSER			(11.31)	DCM		(1.92)	DXMW		(3.97)	UX3				AVER % ERR=	2.82	ESTIMATION=	OLS
HAWA	-1.15	+	2.0197	U.S.	+	.5128	U.S.	+	.7716	HAWA				R SQAR BAR=	.997	DURBIN WAT=	2.613
WSER			(3.24)	DCM		(1.39)	DXMW		(7.71)	WSEL				AVER % ERR=	1.38	ESTIMATION=	OLS
IDAH	-.71	+	.9884	U.S.	+	.8452	U.S.	+	.7713	IDAH				R SQAR BAR=	.988	DURBIN WAT=	1.920
WSER			(1.10)	DC		(1.48)	DXMW		(4.87)	WSEL				AVER % ERR=	2.53	ESTIMATION=	OLS
ILLI	-.77	+	4.3395	U.S.	+	-.2717	ILLI	+	.1851	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.592
WSER			(12.28)	DCM		(.64)	UX3		(11.32)	TIME				AVER % ERR=	.87	ESTIMATION=	C-0
INDI	.16	+	4.6953	U.S.	+	.8534	U.S.	+	-.5221	INDI				R SQAR BAR=	.995	DURBIN WAT=	1.091
WSER			(6.28)	DC		(1.81)	DXMW		(1.81)	UX3				AVER % ERR=	1.52	ESTIMATION=	C-0
IOWA	.19	+	1.1439	U.S.	+	1.0540	U.S.	+	-1.0181	IOWA	+	.6002	IOWA	R SQAR BAR=	.991	DURBIN WAT=	2.370
WSER			(1.99)	DC		(2.48)	DXMW		(2.30)	UX3		(4.35)	WSEL	AVER % ERR=	1.68	ESTIMATION=	OLS
KANS	-1.10	+	3.3188	U.S.	+	.1734	U.S.							R SQAR BAR=	.996	DURBIN WAT=	2.147
WSER			(6.15)	DCM		(6.38)	TIME							AVER % ERR=	1.54	ESTIMATION=	C-0

ESTIMATION FOR: WSER WAGE RATE, SERVICES (50) LAG DEPENDENT VARIABLE: WSEL

KENT	-.31	+	1.0905	U.S.	+	.4323	U.S.	+	-.2039	KENT	+	.8023	KENT	R SQAR BAR=	.998	DURBIN WAT=	1.801
WSER			(2.84)	DC		(1.86)	DXMW		(1.66)	UX3		(9.93)	WSEL	AVER % ERR=	1.16	ESTIMATION=	OLS
LOUS	-.44	+	.2351	U.S.	+	.4313	U.S.	+	.9625	LOUS				R SQAR BAR=	.999	DURBIN WAT=	2.297
WSER			(.81)	DC		(3.32)	DXMW		(17.43)	WSEL				AVER % ERR=	.84	ESTIMATION=	OLS
MAIN	-.98	+	1.5453	U.S.	+	.7118	U.S.	+	.7144	MAIN				R SQAR BAR=	.995	DURBIN WAT=	1.420
WSER			(2.55)	DCM		(1.95)	DXMW		(6.13)	WSEL				AVER % ERR=	1.96	ESTIMATION=	OLS
MARY	-.60	+	.6391	U.S.	+	.7084	U.S.	+	-.2070	MARY	+	.9093	MARY	R SQAR BAR=	.999	DURBIN WAT=	2.425
WSER			(1.75)	DC		(3.56)	DXMW		(.98)	UX3		(18.04)	WSEL	AVER % ERR=	.74	ESTIMATION=	OLS
MASS	-.16	+	.3136	U.S.	+	.4222	U.S.	+	-.5134	MASS	+	1.0137	MASS	R SQAR BAR=	.999	DURBIN WAT=	2.608
WSER			(1.04)	DC		(1.95)	DXMW		(2.00)	UX3		(18.72)	WSEL	AVER % ERR=	.82	ESTIMATION=	OLS
MICH	-.81	+	2.2141	U.S.	+	.9283	U.S.	+	-.3087	MICH	+	.6760	MICH	R SQAR BAR=	.997	DURBIN WAT=	1.512
WSER			(3.68)	DC		(2.80)	DXMW		(2.32)	UX3		(7.95)	WSEL	AVER % ERR=	1.18	ESTIMATION=	OLS
MINN	1.01	+	2.0417	U.S.	+	-.5223	MINN	+	.1837	U.S.				R SQAR BAR=	.991	DURBIN WAT=	1.315
WSER			(5.47)	DCM		(.80)	UX3		(12.40)	TIME				AVER % ERR=	1.52	ESTIMATION=	OLS
MISS	-1.09	+	3.4523	U.S.	+	-.2484	MISS	+	.0814	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.860
WSER			(5.58)	DC		(.91)	UX3		(2.27)	TIME				AVER % ERR=	2.36	ESTIMATION=	C-O
MISR	-1.09	+	1.5314	U.S.	+	.9041	U.S.	+	.7270	MISR				R SQAR BAR=	.998	DURBIN WAT=	2.606
WSER			(3.51)	DCM		(4.31)	DXMW		(10.80)	WSEL				AVER % ERR=	1.08	ESTIMATION=	OLS
MONT	-.97	+	2.6161	U.S.	+	.7817	U.S.	+	.4967	MONT				R SQAR BAR=	.990	DURBIN WAT=	1.971
WSER			(3.30)	DCM		(1.53)	DXMW		(2.69)	WSEL				AVER % ERR=	2.05	ESTIMATION=	OLS
NEBR	-1.03	+	1.8639	U.S.	+	.6675	U.S.	+	.6720	NEBR				R SQAR BAR=	.996	DURBIN WAT=	1.841
WSER			(3.19)	DCM		(2.12)	DXMW		(5.35)	WSEL				AVER % ERR=	1.62	ESTIMATION=	OLS
NEVA	1.92	+	2.3999	U.S.	+	.1885	U.S.							R SQAR BAR=	.989	DURBIN WAT=	1.207
WSER			(5.67)	DCM		(11.43)	TIME							AVER % ERR=	1.86	ESTIMATION=	OLS
NHAM	-.33	+	1.4457	U.S.	+	.5435	U.S.	+	-.4395	NHAM	+	.7224	NHAM	R SQAR BAR=	.993	DURBIN WAT=	2.632
WSER			(2.42)	DC		(1.35)	DXMW		(1.43)	UX3		(7.30)	WSEL	AVER % ERR=	1.57	ESTIMATION=	OLS
NJER	-1.15	+	6.2805	U.S.	+	2.2543	U.S.	+	-1.4888	NJER				R SQAR BAR=	.979	DURBIN WAT=	.981
WSER			(4.83)	DC		(2.82)	DXMW		(1.61)	UX3				AVER % ERR=	3.08	ESTIMATION=	OLS
NMEX	.07	+	2.7641	U.S.	+	.3785	U.S.	+	.4278	NMEX				R SQAR BAR=	.989	DURBIN WAT=	1.633
WSER			(4.49)	DCM		(1.18)	DXMW		(4.70)	WSEL				AVER % ERR=	1.63	ESTIMATION=	OLS
NYOR	-1.65	+	4.9735	U.S.	+	.2292	U.S.							R SQAR BAR=	.999	DURBIN WAT=	1.977
WSER			(15.82)	DCM		(13.69)	TIME							AVER % ERR=	.59	ESTIMATION=	C-O
NCAR	-.70	+	1.8801	U.S.	+	.4514	U.S.	+	-.2099	NCAR	+	.6859	NCAR	R SQAR BAR=	.997	DURBIN WAT=	2.715
WSER			(2.55)	DC		(1.92)	DXMW		(.92)	UX3		(4.43)	WSEL	AVER % ERR=	1.19	ESTIMATION=	OLS

ESTIMATION FOR: WSER WAGE RATE, SERVICES (50) LAG DEPENDENT VARIABLE: WSEL

NDAK	-.69	+	1.3873	U.S.	+	.7978	U.S.	+	.6184	NDAK			R SQAR BAR=	.989	DURBIN WAT=	1.659
WSER			(2.21)	DCM		(2.01)	DXMW		(4.23)	WSEL			AVER % ERR=	2.46	ESTIMATION=	OLS
OHIO	-.84	+	3.3964	U.S.	+	.1928	U.S.						R SQAR BAR=	.997	DURBIN WAT=	1.605
WSER			(6.95)	DCM		(7.42)	TIME						AVER % ERR=	1.07	ESTIMATION=	C-O
OKLA	-.86	+	1.5669	U.S.	+	.5092	U.S.	+	.7603	OKLA			R SQAR BAR=	.994	DURBIN WAT=	1.687
WSER			(1.39)	DC		(1.38)	DXMW		(3.91)	WSEL			AVER % ERR=	1.94	ESTIMATION=	OLS
OREG	-.63	+	1.9601	U.S.	+	.5104	U.S.	+	.6899	OREG			R SQAR BAR=	.995	DURBIN WAT=	1.976
WSER			(2.66)	DCM		(1.60)	DXMW		(5.12)	WSEL			AVER % ERR=	1.49	ESTIMATION=	OLS
PENN	-.02	+	1.2492	U.S.	+	-.3329	PENN	+	.9004	PENN			R SQAR BAR=	.998	DURBIN WAT=	2.411
WSER			(1.70)	DCM		(1.49)	UX3		(8.24)	WSEL			AVER % ERR=	1.14	ESTIMATION=	OLS
RHIS	-1.23	+	1.7415	U.S.	+	1.0813	U.S.	+	-.1274	RHIS	+	.6974 RHIS	R SQAR BAR=	.997	DURBIN WAT=	1.823
WSER			(2.73)	DC		(3.15)	DXMW		(.93)	UX3		(7.82) WSEL	AVER % ERR=	1.29	ESTIMATION=	OLS
SCAR	-1.21	+	2.0649	U.S.	+	-.2998	SCAR	+	.1962	U.S.			R SQAR BAR=	.995	DURBIN WAT=	1.394
WSER			(3.48)	DC		(1.51)	UX3		(5.90)	TIME			AVER % ERR=	2.20	ESTIMATION=	C-O
SDAK	-.50	+	1.3560	U.S.	+	.6716	U.S.	+	.6015	SDAK			R SQAR BAR=	.986	DURBIN WAT=	1.969
WSER			(2.20)	DCM		(1.50)	DXMW		(3.52)	WSEL			AVER % ERR=	2.43	ESTIMATION=	OLS
TENN	-1.35	+	1.9807	U.S.	+	.6265	U.S.	+	.7295	TENN			R SQAR BAR=	.998	DURBIN WAT=	1.845
WSER			(3.60)	DCM		(2.76)	DXMW		(8.76)	WSEL			AVER % ERR=	1.36	ESTIMATION=	OLS
TEXA	-1.72	+	6.2651	U.S.	+	.8254	U.S.	+	-.8012	TEXA			R SQAR BAR=	.986	DURBIN WAT=	.817
WSER			(7.65)	DCM		(1.64)	DXMW		(1.47)	UX3			AVER % ERR=	2.83	ESTIMATION=	OLS
UTAH	-.45	+	2.2414	U.S.	+	.7109	UTAH						R SQAR BAR=	.994	DURBIN WAT=	1.697
WSER			(4.64)	DC		(7.68)	WSEL						AVER % ERR=	1.41	ESTIMATION=	OLS
VERM	-.40	+	1.8663	U.S.	+	-.3706	VERM	+	.2057	U.S.			R SQAR BAR=	.998	DURBIN WAT=	1.864
WSER			(8.87)	DCM		(2.43)	UX3		(23.98)	TIME			AVER % ERR=	1.39	ESTIMATION=	OLS
VIRG	-.72	+	6.0106	U.S.	+	.6953	U.S.	+	-2.0146	VIRG			R SQAR BAR=	.984	DURBIN WAT=	.849
WSER			(7.83)	DC		(1.33)	DXMW		(1.96)	UX3			AVER % ERR=	3.19	ESTIMATION=	OLS
WASH	-.26	+	.5764	U.S.	+	.4160	U.S.	+	-.2403	WASH	+	.9519 WASH	R SQAR BAR=	.998	DURBIN WAT=	2.367
WSER			(1.41)	DC		(1.36)	DXMW		(1.83)	UX3		(10.98) WSEL	AVER % ERR=	1.03	ESTIMATION=	OLS
WVIR	-.74	+	3.5192	U.S.	+	-.2502	WVIR	+	.1523	U.S.			R SQAR BAR=	.996	DURBIN WAT=	1.083
WSER			(12.87)	DC		(2.45)	UX3		(14.55)	TIME			AVER % ERR=	1.58	ESTIMATION=	OLS
WISC	-.36	+	.4617	U.S.	+	.3949	U.S.	+	.9207	WISC			R SQAR BAR=	.997	DURBIN WAT=	1.930
WSER			(1.33)	DC		(1.48)	DXMW		(13.50)	WSEL			AVER % ERR=	1.15	ESTIMATION=	OLS
WYOM	-.53	+	2.7264	U.S.	+	.5508	WYOM						R SQAR BAR=	.965	DURBIN WAT=	1.562
WSER			(3.12)	DC		(3.31)	WSEL						AVER % ERR=	3.84	ESTIMATION=	OLS

ESTIMATION FOR: WGFC WAGE RATE, GOVERNMENT, FEDERAL CIVILIAN (51)

THE ESTIMATION PERIOD IS FROM 1959 TO 1976

ALAB	-1.73	+	.0596	U.S.	+	-.0070	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.246
WGFC			(18.48)	GFPC		(.21)	TIME	AVER % ERR=	1.26	ESTIMATION=	OLS
ALAS	-1.37	+	.0617	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.341
WGFC			(13.29)	GFPC				AVER % ERR=	2.78	ESTIMATION=	C-O
ARIS	-1.21	+	.0612	U.S.	+	-.0959	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.047
WGFC			(13.24)	GFPC		(2.00)	TIME	AVER % ERR=	1.72	ESTIMATION=	OLS
ARKA	-2.25	+	.0479	U.S.	+	.0630	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.272
WGFC			(13.71)	GFPC		(1.74)	TIME	AVER % ERR=	1.51	ESTIMATION=	OLS
CALF	-.91	+	.0586	U.S.	+	-.0526	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.394
WGFC			(13.61)	GFPC		(1.18)	TIME	AVER % ERR=	1.57	ESTIMATION=	OLS
COLO	-1.70	+	.0602	U.S.	+	-.0380	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.496
WGFC			(29.97)	GFPC		(1.82)	TIME	AVER % ERR=	.88	ESTIMATION=	OLS
CONN	-1.98	+	.0581	U.S.				R SQAR BAR=	.989	DURBIN WAT=	1.327
WGFC			(39.08)	GFPC				AVER % ERR=	2.63	ESTIMATION=	OLS
DELA	-1.04	+	.0723	U.S.	+	-.2279	U.S.	R SQAR BAR=	.978	DURBIN WAT=	1.082
WGFC			(8.63)	GFPC		(2.62)	TIME	AVER % ERR=	3.58	ESTIMATION=	OLS
D.C.	-1.27	+	.0879	U.S.	+	-.1790	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.315
WGFC			(11.54)	GFPC		(2.27)	TIME	AVER % ERR=	2.04	ESTIMATION=	OLS
FLOR	-3.51	+	.0666	U.S.				R SQAR BAR=	.990	DURBIN WAT=	1.069
WGFC			(14.04)	GFPC				AVER % ERR=	2.41	ESTIMATION=	C-O
GEOR	-2.21	+	.0778	U.S.	+	-.2189	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.457
WGFC			(6.14)	GFPC		(1.43)	TIME	AVER % ERR=	1.67	ESTIMATION=	C-O
HAWA	-1.70	+	.0653	U.S.	+	-.0940	U.S.	R SQAR BAR=	.983	DURBIN WAT=	1.001
WGFC			(7.90)	GFPC		(1.10)	TIME	AVER % ERR=	2.93	ESTIMATION=	OLS
IDAH	-3.69	+	.0633	U.S.				R SQAR BAR=	.989	DURBIN WAT=	.966
WGFC			(11.52)	GFPC				AVER % ERR=	2.09	ESTIMATION=	C-O
ILLI	-1.99	+	.0663	U.S.	+	-.0965	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.778
WGFC			(11.24)	GFPC		(1.58)	TIME	AVER % ERR=	2.01	ESTIMATION=	OLS
INDI	-.35	+	.0570	U.S.	+	-.1015	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.106
WGFC			(10.50)	GFPC		(1.80)	TIME	AVER % ERR=	2.25	ESTIMATION=	OLS
IOWA	-2.36	+	.0692	U.S.	+	-.1563	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.932
WGFC			(6.15)	GFPC		(1.20)	TIME	AVER % ERR=	1.84	ESTIMATION=	C-O
KANS	-2.25	+	.0673	U.S.	+	-.1365	U.S.	R SQAR BAR=	.988	DURBIN WAT=	.498
WGFC			(9.98)	GFPC		(1.95)	TIME	AVER % ERR=	2.94	ESTIMATION=	OLS

ESTIMATION FOR: WGFC WAGE RATE, GOVERNMENT, FEDERAL CIVILIAN (51)

KENT	-.94	+	.0483	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.465
WGFC			(51.63)	GFPC				AVER % ERR=	1.83	ESTIMATION=	OLS
LOUS	-2.02	+	.0730	U.S.	+	-.1777	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.695
WGFC			(5.55)	GFPC		(1.13)	TIME	AVER % ERR=	1.96	ESTIMATION=	C-O
MAIN	-.94	+	.0587	U.S.	+	-.1073	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.873
WGFC			(13.78)	GFPC		(2.43)	TIME	AVER % ERR=	1.81	ESTIMATION=	OLS
MARY	-.68	+	.0566	U.S.				R SQAR BAR=	.983	DURBIN WAT=	1.699
WGFC			(12.83)	GFPC				AVER % ERR=	2.87	ESTIMATION=	C-O
MASS	-4.92	+	.0710	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.145
WGFC			(13.09)	GFPC				AVER % ERR=	1.85	ESTIMATION=	C-O
MICH	-1.43	+	.0546	U.S.				R SQAR BAR=	.998	DURBIN WAT=	2.673
WGFC			(98.09)	GFPC				AVER % ERR=	1.02	ESTIMATION=	OLS
MINN	-2.23	+	.0747	U.S.	+	-.1851	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.631
WGFC			(7.89)	GFPC		(1.63)	TIME	AVER % ERR=	1.35	ESTIMATION=	C-O
MISS	-2.23	+	.0554	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.453
WGFC			(19.11)	GFPC				AVER % ERR=	1.61	ESTIMATION=	C-O
MISR	-2.08	+	.0674	U.S.	+	-.0981	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.258
WGFC			(18.97)	GFPC		(2.67)	TIME	AVER % ERR=	1.43	ESTIMATION=	OLS
MONT	-.96	+	.0493	U.S.				R SQAR BAR=	.987	DURBIN WAT=	1.707
WGFC			(35.98)	GFPC				AVER % ERR=	2.66	ESTIMATION=	OLS
NEBR	-4.15	+	.0630	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.247
WGFC			(14.26)	GFPC				AVER % ERR=	1.69	ESTIMATION=	C-O
NEVA	-2.23	+	.0613	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.408
WGFC			(58.07)	GFPC				AVER % ERR=	1.78	ESTIMATION=	OLS
NHAM	.13	+	.0526	U.S.				R SQAR BAR=	.981	DURBIN WAT=	1.220
WGFC			(29.39)	GFPC				AVER % ERR=	2.91	ESTIMATION=	OLS
NJER	-3.24	+	.0657	U.S.				R SQAR BAR=	.997	DURBIN WAT=	1.335
WGFC			(15.44)	GFPC				AVER % ERR=	1.14	ESTIMATION=	C-O
NMEX	-.90	+	.0513	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.126
WGFC			(62.25)	GFPC				AVER % ERR=	1.52	ESTIMATION=	OLS
NYOR	-4.31	+	.0684	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.169
WGFC			(10.27)	GFPC				AVER % ERR=	1.99	ESTIMATION=	C-O
NCAR	-3.58	+	.0593	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.570
WGFC			(16.50)	GFPC				AVER % ERR=	2.22	ESTIMATION=	C-O

ESTIMATION FOR: WGFC WAGE RATE, GOVERNMENT, FEDERAL CIVILIAN (51)

NDAK	-4.12	+	.0582	U.S.					R SQAR BAR=	.992	DURBIN WAT=	1.472
WGFC			(9.14)	GFPC					AVER % ERR=	2.11	ESTIMATION=	C-O
OHIO	-2.40	+	.0633	U.S.					R SQAR BAR=	.994	DURBIN WAT=	1.119
WGFC			(53.86)	GFPC					AVER % ERR=	1.86	ESTIMATION=	OLS
OKLA	-1.31	+	.0678	U.S.	+	-.1606	U.S.		R SQAR BAR=	.996	DURBIN WAT=	1.429
WGFC			(8.09)	GFPC		(1.65)	TIME		AVER % ERR=	1.39	ESTIMATION=	C-O
OREG	-1.66	+	.0578	U.S.					R SQAR BAR=	.996	DURBIN WAT=	1.107
WGFC			(62.33)	GFPC					AVER % ERR=	1.31	ESTIMATION=	OLS
PENN	-1.44	+	.0558	U.S.					R SQAR BAR=	.992	DURBIN WAT=	1.513
WGFC			(20.27)	GFPC					AVER % ERR=	2.08	ESTIMATION=	C-O
RHIS	-2.95	+	.0878	U.S.	+	-.2593	U.S.		R SQAR BAR=	.980	DURBIN WAT=	1.744
WGFC			(4.03)	GFPC		(1.03)	TIME		AVER % ERR=	3.28	ESTIMATION=	C-O
SCAR	-2.22	+	.0545	U.S.					R SQAR BAR=	.992	DURBIN WAT=	1.420
WGFC			(13.29)	GFPC					AVER % ERR=	2.14	ESTIMATION=	C-O
SDAK	1.11	+	.0926	U.S.	+	-.5632	U.S.		R SQAR BAR=	.972	DURBIN WAT=	2.120
WGFC			(4.71)	GFPC		(2.43)	TIME		AVER % ERR=	3.37	ESTIMATION=	C-O
TENN	-.89	+	.0605	U.S.	+	-.0800	U.S.		R SQAR BAR=	.994	DURBIN WAT=	2.678
WGFC			(13.51)	GFPC		(1.72)	TIME		AVER % ERR=	1.77	ESTIMATION=	OLS
TEXA	-2.06	+	.0682	U.S.	+	-.1238	U.S.		R SQAR BAR=	.996	DURBIN WAT=	1.837
WGFC			(8.25)	GFPC		(1.28)	TIME		AVER % ERR=	1.44	ESTIMATION=	C-O
UTAH	-.86	+	.0624	U.S.	+	-.1230	U.S.		R SQAR BAR=	.985	DURBIN WAT=	1.545
WGFC			(8.85)	GFPC		(1.68)	TIME		AVER % ERR=	2.67	ESTIMATION=	OLS
VERM	-1.80	+	.0641	U.S.	+	-.0962	U.S.		R SQAR BAR=	.992	DURBIN WAT=	1.467
WGFC			(11.78)	GFPC		(1.71)	TIME		AVER % ERR=	2.04	ESTIMATION=	OLS
VIRG	-2.44	+	.0890	U.S.	+	-.2702	U.S.		R SQAR BAR=	.993	DURBIN WAT=	1.478
WGFC			(15.20)	GFPC		(4.45)	TIME		AVER % ERR=	2.06	ESTIMATION=	OLS
WASH	-1.73	+	.0653	U.S.	+	-.0848	U.S.		R SQAR BAR=	.994	DURBIN WAT=	1.364
WGFC			(13.80)	GFPC		(1.73)	TIME		AVER % ERR=	1.63	ESTIMATION=	OLS
WVIR	-1.24	+	.0534	U.S.	+	-.0408	U.S.		R SQAR BAR=	.997	DURBIN WAT=	1.255
WGFC			(17.09)	GFPC		(1.26)	TIME		AVER % ERR=	1.23	ESTIMATION=	OLS
WISC	-.91	+	.0882	U.S.	+	-.3924	U.S.		R SQAR BAR=	.987	DURBIN WAT=	1.630
WGFC			(5.06)	GFPC		(1.87)	TIME		AVER % ERR=	2.60	ESTIMATION=	C-O
WYOM	-2.02	+	.0728	U.S.	+	-.1844	U.S.		R SQAR BAR=	.953	DURBIN WAT=	1.429
WGFC			(5.32)	GFPC		(1.30)	TIME		AVER % ERR=	4.52	ESTIMATION=	OLS

ESTIMATION FOR: WGLS WAGE RATE, GOVERNMENT, STATE & LOCAL (52) LAG DEPENDENT VARIABLE: WGLL

THE ESTIMATION PERIOD IS FROM 1959 TO 1976

ALAB	-1.13	+	3.7751	U.S.	+	-.6272	ALAB	+	.4215	ALAB			R SQAR BAR=	.996	DURBIN WAT= 1.714
WGLS			(3.57)	DC		(3.31)	UX1		(2.14)	WGLL			AVER % ERR=	1.28	ESTIMATION= OLS
ALAS	-1.28	+	4.0131	U.S.	+	.7256	ALAS						R SQAR BAR=	.990	DURBIN WAT= 1.994
WGLS			(2.74)	DCM		(5.19)	WGLL						AVER % ERR=	2.13	ESTIMATION= OLS
ARIS	-1.20	+	3.2773	U.S.	+	-1.0574	ARIZ	+	.6835	ARIZ			R SQAR BAR=	.993	DURBIN WAT= 2.307
WGLS			(1.42)	DCM		(2.50)	UX1		(2.11)	WGLL			AVER % ERR=	1.62	ESTIMATION= OLS
ARKA	-2.06	+	2.4557	U.S.	+	3.6235	U.S.	+	-.5964	ARKA			R SQAR BAR=	.994	DURBIN WAT= 1.436
WGLS			(2.27)	DC		(2.61)	DCML		(2.00)	UX1			AVER % ERR=	1.57	ESTIMATION= OLS
CALF	-.27	+	4.8843	U.S.	+	2.8674	U.S.	+	-.0338	CALF			R SQAR BAR=	.992	DURBIN WAT= 1.454
WGLS			(2.62)	DC		(1.27)	DCML		(.48)	UX1			AVER % ERR=	1.77	ESTIMATION= C-O
COLO	-2.81	+	1.4418	U.S.	+	5.2171	U.S.	+	-.5082	COLO	+	.0808 U.S.	R SQAR BAR=	.996	DURBIN WAT= 1.879
WGLS			(1.21)	DC		(3.43)	DCML		(1.12)	UX1		(4.61) TIME	AVER % ERR=	1.31	ESTIMATION= OLS
CONN	-.11	+	2.8350	U.S.	+	.2270	U.S.						R SQAR BAR=	.980	DURBIN WAT= .562
WGLS			(4.02)	DCM		(7.14)	TIME						AVER % ERR=	3.06	ESTIMATION= OLS
DELA	-1.16	+	2.7211	U.S.	+	-8.3830	DELA	+	.7330	DELA			R SQAR BAR=	.983	DURBIN WAT= 2.088
WGLS			(2.13)	DCM		(3.08)	UX1		(4.42)	WGLL			AVER % ERR=	2.59	ESTIMATION= OLS
D.C.	-3.55	+	7.8486	U.S.	+	.4177	D.C.						R SQAR BAR=	.991	DURBIN WAT= 2.069
WGLS			(3.92)	DCM		(2.08)	WGLL						AVER % ERR=	2.51	ESTIMATION= OLS
FLOR	-1.25	+	2.4826	U.S.	+	-.2245	FLOR	+	.7974	FLOR			R SQAR BAR=	.995	DURBIN WAT= 2.634
WGLS			(1.34)	DC		(2.39)	UX1		(3.11)	WGLL			AVER % ERR=	1.59	ESTIMATION= OLS
GEOR	-1.14	+	2.7642	U.S.	+	-.4145	GEOR	+	.6555	GEOR			R SQAR BAR=	.992	DURBIN WAT= 2.176
WGLS			(1.70)	DC		(2.10)	UX1		(2.58)	WGLL			AVER % ERR=	2.01	ESTIMATION= OLS
HAWA	-1.13	+	2.0487	U.S.	+	-4.2645	HAWA	+	.9037	HAWA			R SQAR BAR=	.988	DURBIN WAT= 2.153
WGLS			(1.71)	DCM		(2.42)	UX1		(7.03)	WGLL			AVER % ERR=	2.04	ESTIMATION= OLS
IDAH	-.31	+	6.4513	U.S.	+	-1.3335	IDAH	+	-.0849	U.S.			R SQAR BAR=	.988	DURBIN WAT= 1.517
WGLS			(7.18)	DCM		(.81)	UX1		(1.51)	TIME			AVER % ERR=	1.88	ESTIMATION= C-O
ILLI	-1.42	+	7.4988	U.S.	+	-.0398	U.S.	+	-.1511	ILLI			R SQAR BAR=	.988	DURBIN WAT= 1.053
WGLS			(15.13)	DC		(1.33)	DCT2		(1.06)	UX1			AVER % ERR=	2.28	ESTIMATION= C-O
INDI	-.89	+	5.9592	U.S.	+	-.8281	INDI						R SQAR BAR=	.963	DURBIN WAT= 1.224
WGLS			(19.41)	DCM		(3.62)	UX1						AVER % ERR=	3.23	ESTIMATION= OLS
IOWA	-2.10	+	4.1551	U.S.	+	2.7312	U.S.	+	-.8136	IOWA			R SQAR BAR=	.989	DURBIN WAT= 1.529
WGLS			(2.46)	DC		(1.26)	DCML		(1.64)	UX1			AVER % ERR=	1.88	ESTIMATION= OLS
KANS	-.57	+	1.6701	U.S.	+	.7925	KANS						R SQAR BAR=	.990	DURBIN WAT= 2.597
WGLS			(2.29)	DCM		(5.51)	WGLL						AVER % ERR=	2.13	ESTIMATION= OLS

ESTIMATION FOR: WGLS WAGE RATE, GOVERNMENT, STATE & LOCAL (52) LAG DEPENDENT VARIABLE: WGLL

KENT	-1.54	+	2.9332	U.S.	+	3.3208	U.S.	+	-1.3243	KENT	R SQAR BAR=	.967	DURBIN WAT=	1.094
WGLS			(1.10)	DC		(.97)	DCML		(3.03)	UX1	AVER % ERR=	3.22	ESTIMATION=	OLS
LOUS	-1.36	+	3.2938	U.S.	+	2.8818	U.S.	+	-.5317	LOUS	R SQAR BAR=	.984	DURBIN WAT=	.747
WGLS			(1.81)	DC		(1.23)	DCML		(1.48)	UX1	AVER % ERR=	2.44	ESTIMATION=	OLS
MAIN	-1.16	+	5.6970	U.S.	+	-1.4566	MAIN				R SQAR BAR=	.988	DURBIN WAT=	1.043
WGLS			(12.71)	DCM		(1.45)	UX1				AVER % ERR=	2.40	ESTIMATION=	C-O
MARY	-2.51	+	5.8818	U.S.	+	-.6680	MARY	+	.1614	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.615
WGLS			(4.21)	DCM		(1.69)	UX1		(2.29)	TIME	AVER % ERR=	1.84	ESTIMATION=	C-O
MASS	-1.13	+	7.3583	U.S.	+	-.2539	MASS				R SQAR BAR=	.983	DURBIN WAT=	.693
WGLS			(10.94)	DCM		(1.18)	UX1				AVER % ERR=	2.17	ESTIMATION=	C-O
MICH	-1.26	+	1.4675	U.S.	+	.3443	U.S.				R SQAR BAR=	.989	DURBIN WAT=	1.731
WGLS			(1.06)	DCM		(3.91)	TIME				AVER % ERR=	2.06	ESTIMATION=	C-O
MINN	-2.59	+	3.5446	U.S.	+	4.6114	U.S.	+	-.4720	MINN	R SQAR BAR=	.993	DURBIN WAT=	1.125
WGLS			(2.15)	DC		(2.15)	DCML		(1.58)	UX1	AVER % ERR=	1.63	ESTIMATION=	OLS
MISS	-.99	+	2.9497	U.S.	+	-.9123	MISS	+	.5112	MISS	R SQAR BAR=	.992	DURBIN WAT=	2.080
WGLS			(1.87)	DCM		(2.44)	UX1		(1.60)	WGLL	AVER % ERR=	2.11	ESTIMATION=	OLS
MISR	-1.11	+	2.0344	U.S.	+	-.3319	MISR	+	.8323	MISR	R SQAR BAR=	.995	DURBIN WAT=	2.754
WGLS			(1.80)	DCM		(1.32)	UX1		(5.62)	WGLL	AVER % ERR=	1.62	ESTIMATION=	OLS
MONT	.30	+	3.4050	U.S.	+	.0824	U.S.				R SQAR BAR=	.979	DURBIN WAT=	1.367
WGLS			(3.79)	DCM		(1.66)	TIME				AVER % ERR=	2.19	ESTIMATION=	C-O
NEBR	-1.49	+	5.8239	U.S.	+	-.0385	U.S.	+	-1.8486	NEBR	R SQAR BAR=	.992	DURBIN WAT=	1.990
WGLS			(26.10)	DC		(2.17)	DCT2		(1.91)	UX1	AVER % ERR=	1.91	ESTIMATION=	C-O
NEVA	-.74	+	4.6570	U.S.	+	.1526	U.S.				R SQAR BAR=	.993	DURBIN WAT=	1.213
WGLS			(10.70)	DCM		(7.78)	TIME				AVER % ERR=	1.72	ESTIMATION=	OLS
NHAM	-1.42	+	1.3268	U.S.	+	.2412	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.496
WGLS			(2.14)	DCM		(6.93)	TIME				AVER % ERR=	1.74	ESTIMATION=	C-O
NJER	-4.23	+	4.6060	U.S.	+	5.8882	U.S.	+	-.8910	NJER	R SQAR BAR=	.992	DURBIN WAT=	1.431
WGLS			(2.50)	DC		(2.42)	DCML		(7.01)	UX1	AVER % ERR=	1.71	ESTIMATION=	OLS
NMEX	-.89	+	4.6806	U.S.	+	.3001	NMEX				R SQAR BAR=	.989	DURBIN WAT=	1.930
WGLS			(3.88)	DCM		(1.35)	WGLL				AVER % ERR=	1.93	ESTIMATION=	OLS
NYOR	-3.16	+	10.0460	U.S.	+	-.0708	U.S.	+	-.2833	NYOR	R SQAR BAR=	.989	DURBIN WAT=	1.395
WGLS			(13.13)	DC		(1.61)	DCT2		(2.12)	UX1	AVER % ERR=	1.97	ESTIMATION=	C-O
NCAR	-1.95	+	6.8406	U.S.	+	-.8744	NCAR				R SQAR BAR=	.973	DURBIN WAT=	1.368
WGLS			(24.75)	DCM		(4.17)	UX1				AVER % ERR=	3.23	ESTIMATION=	OLS

ESTIMATION FOR: WGLS WAGE RATE, GOVERNMENT, STATE & LOCAL (52) LAG DEPENDENT VARIABLE: WGLL

NDAK	-.15	+	1.0093	U.S.	+	.7986	NDAK							R SQAR BAR=	.963	DURBIN WAT=	1.783
WGLS			(1.47)	DCM		(4.53)	WGLL							AVER % ERR=	3.52	ESTIMATION=	OLS
OHIO	-1.41	+	6.7462	U.S.	+	-.2136	OHIO							R SQAR BAR=	.987	DURBIN WAT=	1.105
WGLS			(19.98)	DCM		(2.37)	UX1							AVER % ERR=	2.20	ESTIMATION=	C-O
OKLA	-1.22	+	1.9384	U.S.	+	3.7651	U.S.	+	-1.0727	OKLA				R SQAR BAR=	.988	DURBIN WAT=	1.157
WGLS			(1.30)	DC		(2.01)	DCML		(1.68)	UX1				AVER % ERR=	1.95	ESTIMATION=	C-O
OREG	-1.51	+	1.9578	U.S.	+	3.7691	U.S.	+	-.4806	OREG	+	.0894	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.710
WGLS			(1.71)	DC		(3.06)	DCML		(1.15)	UX1		(5.11)	TIME	AVER % ERR=	1.02	ESTIMATION=	OLS
PENN	-2.38	+	4.8517	U.S.	+	3.1842	U.S.	+	-.3153	PENN				R SQAR BAR=	.989	DURBIN WAT=	1.681
WGLS			(2.27)	DC		(1.20)	DCML		(3.29)	UX1				AVER % ERR=	2.56	ESTIMATION=	C-O
RHIS	-3.31	+	6.2627	U.S.	+	2.7569	U.S.	+	-1.9546	RHIS				R SQAR BAR=	.984	DURBIN WAT=	1.379
WGLS			(2.24)	DC		(.77)	DCML		(2.48)	UX1				AVER % ERR=	2.77	ESTIMATION=	OLS
SCAR	-2.20	+	2.7050	U.S.	+	1.7754	U.S.	+	-.8948	SCAR	+	.1095	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.386
WGLS			(1.32)	DC		(.74)	DCML		(2.74)	UX1		(4.18)	TIME	AVER % ERR=	2.41	ESTIMATION=	OLS
SDAK	-1.35	+	3.2698	U.S.	+	-2.5934	SDAK	+	.1029	U.S.				R SQAR BAR=	.991	DURBIN WAT=	2.035
WGLS			(9.83)	DCM		(1.15)	UX1		(6.79)	TIME				AVER % ERR=	1.98	ESTIMATION=	OLS
TENN	-.95	+	3.4654	U.S.	+	-.1872	TENN	+	.1296	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.365
WGLS			(8.39)	DCM		(1.13)	UX1		(6.87)	TIME				AVER % ERR=	1.31	ESTIMATION=	OLS
TEXA	-.46	+	1.8866	U.S.	+	-.1384	TEXA	+	.7415	TEXA				R SQAR BAR=	.996	DURBIN WAT=	1.853
WGLS			(2.08)	DC		(2.27)	UX1		(4.37)	WGLL				AVER % ERR=	1.30	ESTIMATION=	OLS
UTAH	-.50	+	1.7803	U.S.	+	.7640	UTAH							R SQAR BAR=	.991	DURBIN WAT=	2.622
WGLS			(2.30)	DCM		(4.97)	WGLL							AVER % ERR=	1.79	ESTIMATION=	OLS
VERM	-.03	+	2.2095	U.S.	+	-4.0656	VERM	+	.1557	U.S.				R SQAR BAR=	.978	DURBIN WAT=	.828
WGLS			(2.83)	DCM		(1.68)	UX1		(5.17)	TIME				AVER % ERR=	2.72	ESTIMATION=	OLS
VIRG	-1.55	+	4.2547	U.S.	+	-.4607	VIRG	+	.1391	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.509
WGLS			(4.82)	DCM		(1.09)	UX1		(3.96)	TIME				AVER % ERR=	1.68	ESTIMATION=	OLS
WASH	-.81	+	1.7458	U.S.	+	.8836	WASH							R SQAR BAR=	.995	DURBIN WAT=	2.457
WGLS			(1.99)	DCM		(7.36)	WGLL							AVER % ERR=	1.39	ESTIMATION=	OLS
WVIR	-.69	+	3.3294	U.S.	+	2.2253	U.S.	+	-.7719	WVIR				R SQAR BAR=	.996	DURBIN WAT=	1.442
WGLS			(3.52)	DC		(1.90)	DCML		(2.22)	UX1				AVER % ERR=	1.16	ESTIMATION=	C-O
WISC	-1.84	+	5.5994	U.S.	+	1.4334	U.S.	+	-.5650	WISC				R SQAR BAR=	.992	DURBIN WAT=	1.468
WGLS			(2.98)	DC		(.62)	DCML		(1.41)	UX1				AVER % ERR=	1.74	ESTIMATION=	C-O
WYOM	-.10	+	2.4477	U.S.	+	.5417	WYOM							R SQAR BAR=	.976	DURBIN WAT=	2.008
WGLS			(2.55)	DCM		(2.60)	WGLL							AVER % ERR=	2.38	ESTIMATION=	OLS

ESTIMATION FOR: XAFF OUTPUT, AGRICULTURE, FORESTRY, FISHERIES & OTHER (53)

THE ESTIMATION PERIOD IS FROM 1957 TO 1976

ALAB	-332.45	+	6.0938	U.S.	+	2.5914	U.S.	+	1.0904	U.S.	+	-13.2934	U.S.	R SQAR BAR=	.362	DURBIN WAT=	1.558
XAFF			(1.25)	OFL		(1.96)	OFFD		(3.70)	OFCT		(1.40)	TIME	AVER % ERR=	5.89	ESTIMATION=	OLS
ALAS			E X O G E N O U S														
ARIS	.00	+	1.9865	U.S.	+	2.3630	U.S.	+	-4.1000	U.S.				R SQAR BAR=	.213	DURBIN WAT=	1.808
XAFF			(1.63)	OFFD		(2.86)	OFMA		(.94)	TIME				AVER % ERR=	11.67	ESTIMATION=	OLS
ARKA	-259.89	+	4.0351	U.S.	+	2.8931	U.S.	+	1.5634	U.S.				R SQAR BAR=	.551	DURBIN WAT=	2.241
XAFF			(1.44)	OFL		(2.60)	OFFD		(2.88)	OFCT				AVER % ERR=	7.88	ESTIMATION=	OLS
CALF	-4345.41	+	25.8639	U.S.	+	54.2343	U.S.							R SQAR BAR=	.636	DURBIN WAT=	1.954
XAFF			(5.84)	OFFD		(1.25)	OFD							AVER % ERR=	8.13	ESTIMATION=	OLS
COLO	-21.21	+	2.9812	U.S.	+	2.0394	U.S.							R SQAR BAR=	.348	DURBIN WAT=	1.423
XAFF			(1.23)	OFC		(.68)	OFMA							AVER % ERR=	11.10	ESTIMATION=	OLS
CONN	-1.93	+	2.7133	U.S.	+	.4384	U.S.	+	-6.8240	U.S.				R SQAR BAR=	.373	DURBIN WAT=	1.230
XAFF			(1.26)	OFL		(.77)	OFFD		(1.62)	TIME				AVER % ERR=	6.93	ESTIMATION=	OLS
DELA	8.00	+	.6627	U.S.										R SQAR BAR=	.362	DURBIN WAT=	2.024
XAFF			(3.52)	OF										AVER % ERR=	9.17	ESTIMATION=	OLS
D.C.	1.17	+	.0134	U.S.										R SQAR BAR=	.115	DURBIN WAT=	1.075
XAFF			(1.90)	OF										AVER % ERR=	9.81	ESTIMATION=	OLS
FLOR	-875.53	+	7.3363	U.S.	+	13.1703	U.S.							R SQAR BAR=	.653	DURBIN WAT=	1.572
XAFF			(.86)	OFL		(2.34)	OFC							AVER % ERR=	8.98	ESTIMATION=	OLS
GEOR	-292.50	+	4.7071	U.S.	+	2.9340	U.S.	+	2.7333	U.S.				R SQAR BAR=	.756	DURBIN WAT=	2.083
XAFF			(2.37)	OFL		(2.70)	OFFC		(2.94)	OFT				AVER % ERR=	4.89	ESTIMATION=	OLS
HAWA			E X O G E N O U S														
IDAH	-183.93	+	2.3021	U.S.	+	4.4869	U.S.							R SQAR BAR=	.463	DURBIN WAT=	1.876
XAFF			(1.73)	OFFD		(1.50)	OFMA							AVER % ERR=	11.79	ESTIMATION=	OLS
ILLI	.00	+	16.4922	U.S.	+	11.1909	U.S.	+	-47.9805	U.S.				R SQAR BAR=	.256	DURBIN WAT=	1.428
XAFF			(3.76)	OFFD		(3.77)	OFMA		(3.07)	TIME				AVER % ERR=	9.62	ESTIMATION=	OLS
INDI	.00	+	8.9000	U.S.	+	3.6049	U.S.	+	-6.5563	U.S.				R SQAR BAR=	.484	DURBIN WAT=	2.739
XAFF			(2.67)	OFFD		(1.60)	OFMA		(.55)	TIME				AVER % ERR=	12.94	ESTIMATION=	OLS
IOWA	1051.56	+	9.2993	U.S.										R SQAR BAR=	.077	DURBIN WAT=	1.486
XAFF			(1.63)	OF										AVER % ERR=	11.14	ESTIMATION=	OLS
KANS	-2754.72	+	26.1677	U.S.	+	22.4968	U.S.	+	-67.7127	U.S.				R SQAR BAR=	.390	DURBIN WAT=	1.397
XAFF			(2.50)	OFC		(2.24)	OFMA		(2.31)	TIME				AVER % ERR=	13.10	ESTIMATION=	OLS

ESTIMATION FOR: XAFF OUTPUT. AGRICULTURE. FORESTRY. FISHERIES & OTHER (53)

KENT	-569.81	+	9.9008	U.S.	+	2.3172	U.S.	+	2.8407	U.S.	+	-9.5936	U.S.	R SQAR BAR=	.397	DURBIN WAT=	2.585
XAFF			(1.83)	OFL		(1.14)	OFFG		(2.07)	OFT		(1.06)	TIME	AVER % ERR=	5.35	ESTIMATION=	OLS
LOUS	-1066.53	+	17.3893	U.S.	+	1.8338	U.S.	+	.4938	U.S.	+	-24.3034	U.S.	R SQAR BAR=	.340	DURBIN WAT=	1.905
XAFF			(2.81)	OFL		(1.09)	OFFD		(1.32)	OFCT		(2.00)	TIME	AVER % ERR=	7.26	ESTIMATION=	OLS
MAIN			E X O G E N O U S														
MARY	.00	+	1.4703	U.S.	+	2.0253	U.S.	+	-3.2683	U.S.				R SQAR BAR=	.518	DURBIN WAT=	1.799
XAFF			(2.77)	OFFD		(5.64)	OFMA		(1.73)	TIME				AVER % ERR=	6.65	ESTIMATION=	OLS
MASS	16.47	+	3.2913	U.S.	+	.4573	U.S.	+	-7.8179	U.S.				R SQAR BAR=	.306	DURBIN WAT=	1.297
XAFF			(1.21)	OFL		(.63)	OFFD		(1.47)	TIME				AVER % ERR=	6.25	ESTIMATION=	OLS
MICH			E X O G E N O U S														
MINN	26.96	+	13.5357	U.S.										R SQAR BAR=	.177	DURBIN WAT=	1.435
XAFF			(2.30)	OF										AVER % ERR=	12.98	ESTIMATION=	OLS
MISS	-1969.21	+	29.2477	U.S.	+	1.9587	U.S.	+	1.5635	U.S.	+	-42.5815	U.S.	R SQAR BAR=	.712	DURBIN WAT=	2.163
XAFF			(4.12)	OFL		(1.02)	OFFD		(3.63)	OFCT		(3.06)	TIME	AVER % ERR=	5.94	ESTIMATION=	OLS
MISR	-1638.39	+	18.1113	U.S.	+	19.7621	U.S.	+	-67.4441	U.S.				R SQAR BAR=	.407	DURBIN WAT=	2.256
XAFF			(2.98)	OFC		(3.39)	OFMA		(3.97)	TIME				AVER % ERR=	6.53	ESTIMATION=	OLS
MONT			E X O G E N O U S														
NEBR	.00	+	10.0241	U.S.	+	1.9381	U.S.	+	-13.4118	U.S.				R SQAR BAR=	.174	DURBIN WAT=	2.238
XAFF			(2.67)	OFFG		(.61)	OFMA		(1.69)	TIME				AVER % ERR=	11.92	ESTIMATION=	OLS
NEVA			E X O G E N O U S														
NHAM	.00	+	.7719	U.S.	+	1.1830	U.S.	+	-7.3552	U.S.				R SQAR BAR=	.788	DURBIN WAT=	1.380
XAFF			(3.77)	OFFD		(8.55)	OFMA		(10.11)	TIME				AVER % ERR=	10.12	ESTIMATION=	OLS
NJER	.00	+	3.4050	U.S.	+	2.5076	U.S.	+	-14.7567	U.S.				R SQAR BAR=	.651	DURBIN WAT=	1.618
XAFF			(3.21)	OFL		(2.13)	OFC		(9.48)	TIME				AVER % ERR=	5.56	ESTIMATION=	OLS
NMEX	.00	+	1.4437	U.S.	+	.9209	U.S.	+	-2.0847	U.S.				R SQAR BAR=	.322	DURBIN WAT=	1.070
XAFF			(2.50)	OFFG		(1.88)	OFMA		(1.70)	TIME				AVER % ERR=	8.97	ESTIMATION=	OLS
NYOR	-271.11	+	16.2088	U.S.	+	1.8859	U.S.	+	-29.5358	U.S.				R SQAR BAR=	.208	DURBIN WAT=	1.265
XAFF			(2.14)	OFL		(.71)	OFFG		(2.43)	TIME				AVER % ERR=	6.23	ESTIMATION=	OLS
NCAR	-140.23	+	4.4245	U.S.	+	1.1206	U.S.	+	7.2094	U.S.				R SQAR BAR=	.677	DURBIN WAT=	1.658
XAFF			(1.70)	OFL		(1.19)	OFFD		(5.58)	OFT				AVER % ERR=	4.52	ESTIMATION=	OLS

ESTIMATION FOR: XAFF OUTPUT, AGRICULTURE, FORESTRY, FISHERIES & OTHER (53)

NDAK	-254.77	+	8.2971 U.S.									R SQAR BAR=	.106	DURBIN WAT= 1.520
XAFF			(1.83) OF									AVER % ERR=	27.43	ESTIMATION= OLS
OHIO	.00	+	8.9018 U.S.	+	7.7649 U.S.	+	-29.8215 U.S.					R SQAR BAR=	.269	DURBIN WAT= 1.778
XAFF			(4.07) OFFD		(5.26) OFMA		(3.84) TIME					AVER % ERR=	7.42	ESTIMATION= OLS
OKLA	-1879.74	+	18.9324 U.S.	+	14.1201 U.S.	+	-49.6779 U.S.					R SQAR BAR=	.144	DURBIN WAT= 1.294
XAFF			(2.16) OFL		(2.12) OFC		(2.48) TIME					AVER % ERR=	12.70	ESTIMATION= OLS
OREG	.00	+	3.9508 U.S.	+	3.8115 U.S.	+	-15.2744 U.S.					R SQAR BAR=	.040	DURBIN WAT= 1.753
XAFF			(3.09) OFFD		(4.41) OFMA		(3.36) TIME					AVER % ERR=	8.96	ESTIMATION= OLS
PENN	.00	+	8.0998 U.S.	+	6.2896 U.S.	+	-30.7465 U.S.					R SQAR BAR=	.472	DURBIN WAT= 1.343
XAFF			(5.32) OFFD		(6.12) OFMA		(5.69) TIME					AVER % ERR=	6.21	ESTIMATION= OLS
RHIS	64.32	+	-.1075 U.S.	+	-.2009 U.S.							R SQAR BAR=	.413	DURBIN WAT= 1.296
XAFF			(1.61) OFFD		(1.34) OFMA							AVER % ERR=	9.20	ESTIMATION= OLS
SCAR	-89.60	+	2.0215 U.S.	+	.7799 U.S.	+	2.4203 U.S.	+	-4.3118 U.S.			R SQAR BAR=	.422	DURBIN WAT= 1.910
XAFF			(.88) OFL		(.90) OFFG		(4.17) OFT		(1.13) TIME			AVER % ERR=	5.31	ESTIMATION= OLS
SDAK			E X O G E N O U S											
TENN	-689.07	+	11.9359 U.S.	+	3.7580 U.S.	+	1.9563 U.S.	+	-27.9664 U.S.			R SQAR BAR=	.629	DURBIN WAT= 1.875
XAFF			(3.65) OFL		(3.05) OFFG		(2.36) OFT		(5.13) TIME			AVER % ERR=	4.53	ESTIMATION= OLS
TEXA	.00	+	26.9161 U.S.	+	-52.3388 U.S.							R SQAR BAR=	.121	DURBIN WAT= 1.290
XAFF			(12.12) OF		(4.30) TIME							AVER % ERR=	10.72	ESTIMATION= OLS
UTAH	.00	+	1.1021 U.S.	+	.9388 U.S.	+	-3.4644 U.S.					R SQAR BAR=	.151	DURBIN WAT= 1.430
XAFF			(2.45) OFFG		(2.47) OFMA		(3.64) TIME					AVER % ERR=	9.37	ESTIMATION= OLS
VERM	.00	+	.8449 U.S.	+	1.3997 U.S.	+	-5.8247 U.S.					R SQAR BAR=	.269	DURBIN WAT= 1.290
XAFF			(1.05) OFL		(1.56) OFC		(4.92) TIME					AVER % ERR=	11.86	ESTIMATION= OLS
VIRG	-497.95	+	10.2938 U.S.	+	4.0227 U.S.	+	1.8183 U.S.	+	-31.6167 U.S.			R SQAR BAR=	.359	DURBIN WAT= 2.149
XAFF			(1.32) OFL		(1.95) OFFD		(1.50) OFT		(2.07) TIME			AVER % ERR=	7.44	ESTIMATION= OLS
WASH	-140.81	+	8.5973 U.S.									R SQAR BAR=	.465	DURBIN WAT= 1.205
XAFF			(4.29) OF									AVER % ERR=	9.24	ESTIMATION= OLS
WVIR	.00	+	2.6135 U.S.	+	-9.3508 U.S.							R SQAR BAR=	.786	DURBIN WAT= 1.200
XAFF			(17.48) OF		(11.42) TIME							AVER % ERR=	13.02	ESTIMATION= OLS
WISC			E X O G E N O U S											
WYOM	.00	+	.9211 U.S.	+	1.6313 U.S.	+	-5.8557 U.S.					R SQAR BAR=	.222	DURBIN WAT= 1.840
XAFF			(1.33) OFFG		(2.78) OFMA		(3.99) TIME					AVER % ERR=	12.72	ESTIMATION= OLS

ESTIMATION FOR: XMIN OUTPUT, MINING (54)

THE ESTIMATION PERIOD IS FROM 1957 TO 1976

ALAB	.48	+	1.8751	U.S.							R SQAR BAR=	.847	DURBIN WAT=	1.928
XMIN			(1.77)	OMI							AVER % ERR=	6.32	ESTIMATION=	C-O
ALAS			E X O G E N O U S											
ARIS	-15.34	+	2.4184	U.S.	+	.0711	U.S.	+	-.3969	U.S.	R SQAR BAR=	.713	DURBIN WAT=	1.048
XMIN			(2.96)	OMIM		(.04)	OMIS		(.07)	TIME	AVER % ERR=	8.46	ESTIMATION=	C-O
ARKA	62.66	+	.7380	U.S.	+	.1891	U.S.	+	-3.0400	U.S.	R SQAR BAR=	.594	DURBIN WAT=	1.749
XMIN			(2.57)	OMIX		(.71)	OMIS		(4.03)	TIME	AVER % ERR=	3.25	ESTIMATION=	OLS
CALF	638.35	+	9.9482	U.S.	+	3.4589	U.S.	+	-45.0294	U.S.	R SQAR BAR=	.801	DURBIN WAT=	2.183
XMIN			(1.93)	OMIX		(1.25)	OMIS		(3.13)	TIME	AVER % ERR=	3.37	ESTIMATION=	C-O
COLO	104.74	+	1.0443	U.S.	+	.1380	U.S.	+	.7805	U.S.	R SQAR BAR=	.799	DURBIN WAT=	1.722
XMIN			(.91)	OMIC		(.07)	OMIX		(1.71)	OMIM	AVER % ERR=	5.12	ESTIMATION=	C-O
CONN			E X O G E N O U S											
DELA			E X O G E N O U S											
D.C.			E X O G E N O U S											
FLOR	-332.69	+	3.5527	U.S.	+	3.2677	U.S.	+	-9.8553	U.S.	R SQAR BAR=	.825	DURBIN WAT=	1.541
XMIN			(2.39)	OMIX		(2.37)	OMIS		(2.52)	TIME	AVER % ERR=	10.51	ESTIMATION=	OLS
GEOR	29.54	+	.5919	U.S.							R SQAR BAR=	.862	DURBIN WAT=	1.581
XMIN			(1.48)	OMIS							AVER % ERR=	8.41	ESTIMATION=	C-O
HAWA			E X O G E N O U S											
IDAH	20.85	+	.1470	U.S.	+	.2099	U.S.	+	-1.2392	U.S.	R SQAR BAR=	.254	DURBIN WAT=	1.535
XMIN			(1.07)	OMIM		(.88)	OMIS		(1.96)	TIME	AVER % ERR=	6.84	ESTIMATION=	OLS
ILLI	265.23	+	3.4744	U.S.	+	1.4074	U.S.	+	-16.8279	U.S.	R SQAR BAR=	.811	DURBIN WAT=	1.790
XMIN			(2.00)	OMIX		(1.35)	OMIS		(3.67)	TIME	AVER % ERR=	2.73	ESTIMATION=	C-O
INDI	-28.12	+	.2078	U.S.	+	1.4745	U.S.				R SQAR BAR=	.929	DURBIN WAT=	1.201
XMIN			(.81)	OMIC		(8.65)	OMIS				AVER % ERR=	4.44	ESTIMATION=	OLS
IOWA	1.53	+	.3741	U.S.							R SQAR BAR=	.672	DURBIN WAT=	.964
XMIN			(6.48)	OMIS							AVER % ERR=	8.02	ESTIMATION=	OLS
KANS			E X O G E N O U S											

ESTIMATION FOR: XMIN OUTPUT, MINING (54)

KENT	-179.55	+	1.9372	U.S.	+	5.5019	U.S.					R SQAR BAR=	.933	DURBIN WAT=	1.153
XMIN			(.73)	OMIC		(1.21)	OMIX					AVER % ERR=	7.50	ESTIMATION=	C-0
LOUS	-1528.57	+	.6423	U.S.	+	55.9098	U.S.	+	-51.9262	U.S.		R SQAR BAR=	.957	DURBIN WAT=	1.864
XMIN			(.18)	OMIM		(4.20)	OMIX		(1.45)	TIME		AVER % ERR=	3.26	ESTIMATION=	C-0
MAIN			E X O G E N O U S												
MARY	7.45	+	.2890	U.S.								R SQAR BAR=	.713	DURBIN WAT=	1.654
XMIN			(2.36)	OMIS								AVER % ERR=	8.05	ESTIMATION=	C-0
MASS	9.26	+	.1241	U.S.								R SQAR BAR=	.245	DURBIN WAT=	.501
XMIN			(2.74)	OMIS								AVER % ERR=	12.77	ESTIMATION=	OLS
MICH	.00	+	1.5051	U.S.	+	.7214	U.S.	+	1.4253	U.S.	+ -9.8940	U.S.	R SQAR BAR=	.575	DURBIN WAT= 1.717
XMIN			(4.07)	OMIM		(1.14)	OMIX		(1.91)	OMIS	(7.48)	TIME	AVER % ERR=	4.73	ESTIMATION= OLS
MINN	.00	+	5.2252	U.S.	+	.3292	U.S.	+	-17.6993	U.S.		R SQAR BAR=	.656	DURBIN WAT=	1.042
XMIN			(6.21)	OMIM		(.33)	OMIC		(9.10)	TIME		AVER % ERR=	9.96	ESTIMATION=	OLS
MISS	88.07	+	1.8776	U.S.	+	.3367	U.S.	+	-7.6390	U.S.		R SQAR BAR=	.755	DURBIN WAT=	2.163
XMIN			(2.17)	OMIX		(.71)	OMIS		(3.22)	TIME		AVER % ERR=	3.92	ESTIMATION=	C-0
MISR	-50.98	+	.3754	U.S.	+	1.1274	U.S.					R SQAR BAR=	.868	DURBIN WAT=	1.403
XMIN			(.95)	OMIM		(2.37)	OMIS					AVER % ERR=	9.53	ESTIMATION=	C-0
MONT	.00	+	.3951	U.S.	+	.8667	U.S.	+	.8191	U.S.	+ -5.5670	U.S.	R SQAR BAR=	.331	DURBIN WAT= .628
XMIN			(1.01)	OMIM		(1.29)	OMIX		(1.03)	OMIS	(3.96)	TIME	AVER % ERR=	8.50	ESTIMATION= OLS
NEBR			E X O G E N O U S												
NEVA	-43.50	+	.5984	U.S.	+	.2382	U.S.					R SQAR BAR=	.660	DURBIN WAT=	1.047
XMIN			(2.33)	OMIM		(1.28)	OMIS					AVER % ERR=	12.86	ESTIMATION=	OLS
NHAM	-2.54	+	.0583	U.S.								R SQAR BAR=	.764	DURBIN WAT=	1.334
XMIN			(8.10)	OMIS								AVER % ERR=	12.30	ESTIMATION=	OLS
NJER	-54.64	+	1.1465	U.S.	+	.8689	U.S.	+	-4.7948	U.S.		R SQAR BAR=	.394	DURBIN WAT=	1.015
XMIN			(2.18)	OMIX		(1.78)	OMIS		(3.47)	TIME		AVER % ERR=	11.91	ESTIMATION=	OLS
NMEX	350.78	+	1.5057	U.S.	+	.9251	U.S.					R SQAR BAR=	.797	DURBIN WAT=	1.771
XMIN			(2.61)	OMIM		(1.15)	OMIX					AVER % ERR=	2.73	ESTIMATION=	C-0
NYOR	65.85	+	.4739	U.S.								R SQAR BAR=	.629	DURBIN WAT=	1.551
XMIN			(.89)	OMIS								AVER % ERR=	5.91	ESTIMATION=	C-0
NCAR	-3.94	+	.4565	U.S.								R SQAR BAR=	.840	DURBIN WAT=	1.587
XMIN			(2.77)	OMIS								AVER % ERR=	9.74	ESTIMATION=	C-0

ESTIMATION FOR: XMIN OUTPUT, MINING (54)

NDAK			E X O G E N O U S											
OHIO	-36.57	+	.8943	U.S.	+	1.7249	U.S.	+	4.6008	U.S.	R SQAR BAR=	.949	DURBIN WAT=	.894
XMIN			(1.73)	OMIC		(2.15)	OMIS		(2.00)	TIME	AVER % ERR=	3.67	ESTIMATION=	OLS
OKLA	455.88	+	.2802	U.S.	+	4.0604	U.S.				R SQAR BAR=	.595	DURBIN WAT=	1.453
XMIN			(.22)	OMIM		(1.49)	OMIX				AVER % ERR=	3.87	ESTIMATION=	C-O
OREG	-12.09	+	.3340	U.S.							R SQAR BAR=	.782	DURBIN WAT=	1.116
XMIN			(8.52)	OMIS							AVER % ERR=	10.76	ESTIMATION=	OLS
PENN	.00	+	8.6558	U.S.	+	.4426	U.S.	+	-11.8078	U.S.	R SQAR BAR=	.710	DURBIN WAT=	.919
XMIN			(9.40)	OMIC		(.32)	OMIS		(3.72)	TIME	AVER % ERR=	4.08	ESTIMATION=	OLS
RHIS	-.81	+	.0296	U.S.							R SQAR BAR=	.568	DURBIN WAT=	1.418
XMIN			(5.22)	OMIS							AVER % ERR=	16.82	ESTIMATION=	OLS
SCAR	-.50	+	.2040	U.S.							R SQAR BAR=	.843	DURBIN WAT=	1.674
XMIN			(3.03)	OMIS							AVER % ERR=	7.26	ESTIMATION=	C-O
SDAK			E X O G E N O U S											
TENN	-25.73	+	.6988	U.S.	+	.5990	U.S.				R SQAR BAR=	.876	DURBIN WAT=	2.237
XMIN			(3.16)	OMIC		(4.06)	OMIS				AVER % ERR=	4.26	ESTIMATION=	OLS
TEXA	820.01	+	27.7872	U.S.	+	9.7869	U.S.				R SQAR BAR=	.890	DURBIN WAT=	1.721
XMIN			(2.27)	OMIX		(1.07)	OMIS				AVER % ERR=	2.66	ESTIMATION=	C-O
UTAH	.00	+	3.0601	U.S.	+	.0332	U.S.	+	-6.4421	U.S.	R SQAR BAR=	.369	DURBIN WAT=	1.778
XMIN			(8.06)	OMIM		(.07)	OMIC		(7.34)	TIME	AVER % ERR=	5.99	ESTIMATION=	OLS
VERM	-11.11	+	.2174	U.S.	+	.0986	U.S.	+	-.6155	U.S.	R SQAR BAR=	.448	DURBIN WAT=	.655
XMIN			(2.20)	OMIX		(1.07)	OMIS		(2.37)	TIME	AVER % ERR=	13.70	ESTIMATION=	OLS
VIRG	-146.76	+	2.2190	U.S.	+	1.5800	U.S.				R SQAR BAR=	.938	DURBIN WAT=	1.401
XMIN			(2.52)	OMIC		(1.99)	OMIS				AVER % ERR=	6.29	ESTIMATION=	C-O
WASH	3.48	+	.2031	U.S.							R SQAR BAR=	.802	DURBIN WAT=	1.294
XMIN			(2.27)	OMIS							AVER % ERR=	7.81	ESTIMATION=	C-O
WVIR	-169.78	+	6.8357	U.S.	+	2.9681	U.S.				R SQAR BAR=	.925	DURBIN WAT=	1.608
XMIN			(3.03)	OMIC		(1.17)	OMIX				AVER % ERR=	2.73	ESTIMATION=	C-O
WISC			E X O G E N O U S											
WYOM	-4.12	+	2.0820	U.S.	+	2.5400	U.S.	+	.2245	U.S.	R SQAR BAR=	.849	DURBIN WAT=	1.033
XMIN			(.97)	OMIC		(.88)	OMIX		(.26)	OMIM	AVER % ERR=	5.96	ESTIMATION=	C-O

ESTIMATION FOR: XCC OUTPUT, CONTRACT CONSTRUCTION (55) LAG DEPENDENT VARIABLE: XCCL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1958 TO 1976 IN STATES: ALAS HAWA

ALAB	3.87	+	.0464	ALAB	+	1.0275	ALAB	+	-.4488	U.S.	+	.5847	ALAB	R SQAR BAR=	.935	DURBIN WAT=	1.743
XCC			(4.84)	XT5		(1.53)	P1MF		(4.33)	FBYX		(5.34)	XCCL	AVER % ERR=	3.50	ESTIMATION=	OLS
ALAS			E X O G E N O U S														
ARIS	326.00	+	.0688	ARIZ	+	9.4092	ARIZ	+	-.8720	U.S.				R SQAR BAR=	.933	DURBIN WAT=	1.704
XCC			(3.62)	XT5		(6.50)	P1MF		(3.60)	FBYX				AVER % ERR=	5.91	ESTIMATION=	C-O
ARKA	80.65	+	.0377	ARKA	+	1.4522	ARKA	+	-.4078	U.S.	+	.8802	ARKA	R SQAR BAR=	.934	DURBIN WAT=	1.651
XCC			(3.65)	Y*		(1.97)	P1MF		(4.96)	FBYX		(12.03)	XCCL	AVER % ERR=	4.61	ESTIMATION=	OLS
CALF	1400.32	+	.0262	CALF	+	2.6232	CALF	+	-3.9483	U.S.	+	.6216	CALF	R SQAR BAR=	.888	DURBIN WAT=	1.895
XCC			(2.72)	XT5		(2.15)	P1MF		(3.52)	FBYX		(6.21)	XCCL	AVER % ERR=	3.08	ESTIMATION=	OLS
COLO	323.34	+	.0609	COLO	+	1.6765	COLO	+	-.5702	U.S.	+	.2668	COLO	R SQAR BAR=	.865	DURBIN WAT=	1.474
XCC			(3.59)	Y*		(2.03)	P1MF		(3.05)	FBYX		(1.66)	XCCL	AVER % ERR=	4.72	ESTIMATION=	OLS
CONN	87.24	+	.0621	CONN	+	-.1952	U.S.	+	1.0061	CONN				R SQAR BAR=	.898	DURBIN WAT=	1.636
XCC			(1.79)	X5MF		(3.00)	FBYX		(10.07)	XCCL				AVER % ERR=	3.07	ESTIMATION=	OLS
DELA	-24.37	+	.1364	DELA	+	2.9384	DELA	+	-.0703	U.S.	+	-.0596	U.S.	R SQAR BAR=	.932	DURBIN WAT=	2.784
XCC			(4.73)	Y*		(2.46)	P1MF		(2.11)	FBYX		(2.45)	TIMX	AVER % ERR=	3.76	ESTIMATION=	OLS
D.C.	293.84	+	.1726	D.C.	+	.7662	D.C.	+	-.2750	U.S.	+	.0871	U.S.	R SQAR BAR=	.735	DURBIN WAT=	1.772
XCC			(3.07)	X5MF		(.85)	P1MF		(1.93)	FBYX		(1.98)	TIMX	AVER % ERR=	5.46	ESTIMATION=	OLS
FLOR	220.41	+	.4911	FLOR	+	2.5564	FLOR	+	.5166	U.S.				R SQAR BAR=	.935	DURBIN WAT=	1.082
XCC			(7.14)	X5MF		(3.47)	P1MF		(7.03)	TIMX				AVER % ERR=	5.26	ESTIMATION=	OLS
GEOR	641.69	+	.1060	GEOR	+	-.4512	U.S.	+	-.6628	U.S.				R SQAR BAR=	.955	DURBIN WAT=	1.982
XCC			(4.48)	XT5		(1.59)	FBYX		(2.20)	TIMX				AVER % ERR=	3.90	ESTIMATION=	C-O
HAWA	72.15	+	.0589	HAWA	+	3.3175	HAWA							R SQAR BAR=	.790	DURBIN WAT=	.810
XCC			(3.89)	XT5		(1.45)	P1MF							AVER % ERR=	8.49	ESTIMATION=	OLS
IDAH	86.25	+	.0353	IDAH	+	.6017	IDAH	+	-.1241	U.S.	+	.4126	IDAH	R SQAR BAR=	.301	DURBIN WAT=	2.131
XCC			(1.72)	XT5		(.42)	P1MF		(1.74)	FBYX		(1.91)	XCCL	AVER % ERR=	6.66	ESTIMATION=	OLS
ILLI	440.93	+	.0176	ILLI	+	2.1553	ILLI	+	-1.4386	U.S.	+	.7996	ILLI	R SQAR BAR=	.857	DURBIN WAT=	1.965
XCC			(1.88)	XT5		(1.48)	P1MF		(3.00)	FBYX		(8.13)	XCCL	AVER % ERR=	2.84	ESTIMATION=	OLS
INDI	223.36	+	.0908	INDI	+	-.1494	U.S.	+	.8602	INDI				R SQAR BAR=	.849	DURBIN WAT=	1.760
XCC			(3.10)	X5MF		(1.39)	FBYX		(9.26)	XCCL				AVER % ERR=	4.80	ESTIMATION=	OLS
IOWA	487.48	+	.0158	IOWA	+	.8456	IOWA							R SQAR BAR=	.716	DURBIN WAT=	1.339
XCC			(.89)	XT5		(.56)	P1MF							AVER % ERR=	5.54	ESTIMATION=	C-O
KANS	178.99	+	.0334	KANS	+	1.9238	KANS	+	-.3310	U.S.	+	.4052	KANS	R SQAR BAR=	.494	DURBIN WAT=	1.530
XCC			(2.80)	XT5		(2.07)	P1MF		(2.55)	FBYX		(1.94)	XCCL	AVER % ERR=	4.01	ESTIMATION=	OLS

ESTIMATION FOR: XCC OUTPUT, CONTRACT CONSTRUCTION (55) LAG DEPENDENT VARIABLE: XCCL

KENT	150.56	+	.1587	KENT	+	3.9464	KENT	+	-.2390	U.S.	+	.7671	KENT	R SQAR BAR=	.879	DURBIN WAT=	1.326
XCC			(3.20)	X5MF		(2.84)	P1MF		(2.10)	FBYX		(6.17)	XCCL	AVER % ERR=	4.31	ESTIMATION=	OLS
LOUS	-49.91	+	.0974	LOUS	+	4.4327	LOUS	+	-1.3347	U.S.	+	.7374	LOUS	R SQAR BAR=	.881	DURBIN WAT=	1.409
XCC			(3.21)	Y*		(1.57)	P1MF		(3.50)	FBYX		(6.55)	XCCL	AVER % ERR=	5.82	ESTIMATION=	OLS
MAIN	52.60	+	.0520	MAIN	+	-.0036	U.S.							R SQAR BAR=	.750	DURBIN WAT=	1.512
XCC			(1.55)	Y*		(.10)	TIMX							AVER % ERR=	5.84	ESTIMATION=	OLS
MARY	250.89	+	.0420	MARY	+	2.3460	MARY	+	-.4234	U.S.	+	.3330	MARY	R SQAR BAR=	.947	DURBIN WAT=	2.050
XCC			(3.43)	XT5		(2.48)	P1MF		(2.24)	FBYX		(2.21)	XCCL	AVER % ERR=	2.73	ESTIMATION=	OLS
MASS	-735.29	+	.2040	MASS	+	4.1350	MASS	+	-1.2641	U.S.	+	-1.0667	U.S.	R SQAR BAR=	.853	DURBIN WAT=	1.323
XCC			(7.82)	Y*		(3.02)	P1MF		(3.59)	FBYX		(5.11)	TIMX	AVER % ERR=	4.63	ESTIMATION=	OLS
MICH	286.65	+	.0644	MICH	+	1.4429	MICH	+	-.2332	U.S.	+	.8563	MICH	R SQAR BAR=	.898	DURBIN WAT=	2.084
XCC			(3.65)	X5MF		(1.18)	P1MF		(1.19)	FBYX		(7.56)	XCCL	AVER % ERR=	4.34	ESTIMATION=	OLS
MINN	1000.36	+	.0517	MINN	+	5.3972	MINN	+	-.0832	U.S.				R SQAR BAR=	.906	DURBIN WAT=	1.481
XCC			(1.61)	X5MF		(2.63)	P1MF		(.80)	TIMX				AVER % ERR=	3.38	ESTIMATION=	C-O
MISS	67.11	+	.0888	MISS	+	-.0125	U.S.	+	.8165	MISS				R SQAR BAR=	.807	DURBIN WAT=	1.738
XCC			(1.70)	X5MF		(.22)	FBYX		(6.25)	XCCL				AVER % ERR=	6.67	ESTIMATION=	OLS
MISR	1156.06	+	.0302	MISR	+	5.2175	MISR	+	-1.5329	U.S.	+	.4476	U.S.	R SQAR BAR=	.701	DURBIN WAT=	1.028
XCC			(.45)	X5MF		(2.59)	P1MF		(3.27)	FBYX		(3.64)	TIMX	AVER % ERR=	5.33	ESTIMATION=	OLS
MONT	54.44	+	.0131	MONT	+	.5947	MONT							R SQAR BAR=	.639	DURBIN WAT=	2.033
XCC			(1.51)	Y*		(3.67)	XCCL							AVER % ERR=	4.82	ESTIMATION=	OLS
NEBR	269.46	+	.0309	NEBR	+	2.4386	NEBR	+	-.1199	U.S.				R SQAR BAR=	.809	DURBIN WAT=	1.694
XCC			(1.62)	XT5		(2.04)	P1MF		(1.05)	FBYX				AVER % ERR=	3.61	ESTIMATION=	C-O
NEVA	73.77	+	.3758	NEVA	+	2.5626	NEVA	+	-.2741	U.S.	+	.1263	U.S.	R SQAR BAR=	.917	DURBIN WAT=	1.985
XCC			(2.96)	X5MF		(2.73)	P1MF		(3.79)	FBYX		(5.38)	TIMX	AVER % ERR=	6.66	ESTIMATION=	OLS
NHAM	95.79	+	.1944	NHAM	+	-.2232	U.S.							R SQAR BAR=	.929	DURBIN WAT=	1.865
XCC			(5.14)	Y*		(4.32)	TIMX							AVER % ERR=	3.58	ESTIMATION=	C-O
NJER	317.45	+	.0675	NJER	+	1.7734	NJER	+	-.3365	U.S.	+	.8514	NJER	R SQAR BAR=	.931	DURBIN WAT=	2.516
XCC			(1.91)	X5MF		(1.38)	P1MF		(3.05)	FBYX		(9.44)	XCCL	AVER % ERR=	2.81	ESTIMATION=	OLS
NMEX	12.06	+	.0749	NMEX	+	1.5755	NMEX	+	-.2444	U.S.	+	.3352	NMEX	R SQAR BAR=	.788	DURBIN WAT=	1.666
XCC			(3.68)	XT5		(2.94)	P1MF		(3.52)	FBYX		(2.18)	XCCL	AVER % ERR=	4.37	ESTIMATION=	OLS
NYOR	-271.94	+	.0897	NYOR	+	2.7321	NYOR	+	-3.0208	U.S.	+	-1.6926	U.S.	R SQAR BAR=	.664	DURBIN WAT=	.858
XCC			(4.86)	XT5		(1.49)	P1MF		(2.38)	FBYX		(2.48)	TIMX	AVER % ERR=	5.83	ESTIMATION=	OLS
NCAR	874.92	+	.0831	NCAR	+	.8337	NCAR	+	-.2073	U.S.	+	-.6976	U.S.	R SQAR BAR=	.967	DURBIN WAT=	1.054
XCC			(5.23)	XT5		(1.14)	P1MF		(.91)	FBYX		(2.72)	TIMX	AVER % ERR=	2.82	ESTIMATION=	C-O

ESTIMATION FOR: XCC OUTPUT, CONTRACT CONSTRUCTION (55) LAG DEPENDENT VARIABLE: XCCL

NDAK	123.80	+	.0290	NDAK	+	3.0062	NDAK	+	-.0536	U.S.				R SQAR BAR=	.280	DURBIN WAT=	1.122
XCC			(1.55)	XT5		(1.93)	P1MF		(1.05)	FBYX				AVER % ERR=	10.08	ESTIMATION=	OLS
OHIO	2586.32	+	.0922	OHIO	+	5.7080	OHIO	+	-.2434	U.S.				R SQAR BAR=	.776	DURBIN WAT=	.804
XCC			(2.80)	X5MF		(2.51)	P1MF		(1.12)	TIMX				AVER % ERR=	4.67	ESTIMATION=	C-O
OKLA	149.94	+	.0169	OKLA	+	.4503	OKLA							R SQAR BAR=	.881	DURBIN WAT=	2.069
XCC			(2.71)	Y*		(2.20)	XCCL							AVER % ERR=	3.45	ESTIMATION=	OLS
OREG	402.74	+	.0411	OREG	+	1.7407	OREG	+	-.3814	U.S.				R SQAR BAR=	.921	DURBIN WAT=	1.843
XCC			(3.94)	XT5		(1.68)	P1MF		(3.98)	FBYX				AVER % ERR=	2.98	ESTIMATION=	C-O
PENN	-195.84	+	.0254	PENN	+	1.1165	PENN	+	-1.4830	U.S.	+	.9232	PENN	R SQAR BAR=	.952	DURBIN WAT=	2.030
XCC			(3.03)	XT5		(1.34)	P1MF		(4.59)	FBYX		(8.09)	XCCL	AVER % ERR=	2.43	ESTIMATION=	OLS
RHIS	43.18	+	.0818	RHIS	+	-.0219	U.S.	+	.8225	RHIS				R SQAR BAR=	.916	DURBIN WAT=	1.662
XCC			(2.45)	X5MF		(1.42)	FBYX		(9.02)	XCCL				AVER % ERR=	3.23	ESTIMATION=	OLS
SCAR	89.88	+	.1709	SCAR	+	2.2658	SCAR	+	-.1287	U.S.	+	.7596	SCAR	R SQAR BAR=	.913	DURBIN WAT=	1.953
XCC			(4.22)	X5MF		(1.59)	P1MF		(1.17)	FBYX		(6.63)	XCCL	AVER % ERR=	4.53	ESTIMATION=	OLS
SDAK	51.02	+	.0102	SDAK	+	-.0100	U.S.	+	.7154	SDAK				R SQAR BAR=	.476	DURBIN WAT=	1.192
XCC			(.18)	X5MF		(.29)	FBYX		(3.95)	XCCL				AVER % ERR=	10.98	ESTIMATION=	OLS
TENN	73.11	+	.0278	TENN	+	1.6069	TENN	+	-.5081	U.S.	+	.7478	TENN	R SQAR BAR=	.948	DURBIN WAT=	2.233
XCC			(2.76)	XT5		(1.35)	P1MF		(3.88)	FBYX		(5.63)	XCCL	AVER % ERR=	3.44	ESTIMATION=	OLS
TEXA	237.25	+	.1108	TEXA	+	-.8055	U.S.	+	-1.2063	U.S.				R SQAR BAR=	.928	DURBIN WAT=	1.301
XCC			(3.12)	XT5		(1.02)	FBYX		(1.30)	TIMX				AVER % ERR=	3.82	ESTIMATION=	C-O
UTAH	-5.00	+	.0490	UTAH	+	2.1044	UTAH	+	-.1850	U.S.	+	.6030	UTAH	R SQAR BAR=	.778	DURBIN WAT=	1.162
XCC			(1.98)	XT5		(1.46)	P1MF		(1.83)	FBYX		(2.30)	XCCL	AVER % ERR=	6.15	ESTIMATION=	OLS
VERM	22.68	+	.2300	VERM	+	-.0202	U.S.	+	.8393	VERM				R SQAR BAR=	.913	DURBIN WAT=	1.464
XCC			(3.05)	X5MF		(1.30)	FBYX		(9.30)	XCCL				AVER % ERR=	5.85	ESTIMATION=	OLS
VIRG	547.19	+	.1459	VIRG	+	.1201	VIRG	+	-.6604	U.S.	+	.4944	U.S.	R SQAR BAR=	.953	DURBIN WAT=	1.649
XCC			(3.49)	X5MF		(.13)	P1MF		(2.98)	FBYX		(6.72)	TIMX	AVER % ERR=	3.06	ESTIMATION=	OLS
WASH	234.61	+	.0558	WASH	+	1.7268	WASH	+	-.8462	U.S.	+	.4770	WASH	R SQAR BAR=	.819	DURBIN WAT=	1.210
XCC			(3.30)	Y*		(1.90)	P1MF		(3.16)	FBYX		(2.88)	XCCL	AVER % ERR=	4.86	ESTIMATION=	OLS
WVIR	18.01	+	.0517	WVIR	+	2.8941	WVIR							R SQAR BAR=	.911	DURBIN WAT=	.861
XCC			(1.58)	XT5		(2.51)	P1MF							AVER % ERR=	5.77	ESTIMATION=	C-O
WISC	926.76	+	.0807	WISC	+	-.3887	U.S.	+	-.5541	U.S.				R SQAR BAR=	.855	DURBIN WAT=	1.055
XCC			(2.93)	XT5		(1.34)	FBYX		(1.85)	TIMX				AVER % ERR=	3.80	ESTIMATION=	C-O
WYOM	115.79	+	.4721	WYOM	+	7.4144	WYOM	+	-.1628	U.S.	+	.0566	U.S.	R SQAR BAR=	.648	DURBIN WAT=	.870
XCC			(2.36)	X5MF		(2.61)	P1MF		(1.20)	FBYX		(1.56)	TIMX	AVER % ERR=	12.88	ESTIMATION=	OLS

ESTIMATION FOR: XMDR OUTPUT, MANUFACTURING, DURABLE GOODS (56)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1958 TO 1976 IN STATES: ALAS HAWA

ALAB	-407.72	+	.0930	ALAB	+	1.1632	INTR	+	1.9829	U.S.	+	-.5275	U.S.	R SQAR BAR=	.957	DURBIN WAT=	.985
XMDR			(1.15)	X		(1.84)	IX		(.18)	GEFD		(2.92)	TIMX	AVER % ERR=	2.90	ESTIMATION=	OLS
ALAS	-28.17	+	.0190	ALAS	+	.6215	INTR	+	.4430	U.S.	+	.0116	U.S.	R SQAR BAR=	.967	DURBIN WAT=	1.406
XMDR			(2.03)	XT1		(2.85)	ICD*		(.82)	GEFD		(1.96)	TIMX	AVER % ERR=	6.52	ESTIMATION=	OLS
ARIS	159.60	+	.3849	ARIZ	+	4.8916	INTR	+	17.8610	U.S.	+	-7.2910	ARIZ	R SQAR BAR=	.993	DURBIN WAT=	.940
XMDR			(3.74)	XT1		(3.89)	ICD*		(3.27)	GEFD		(1.41)	WMRL	AVER % ERR=	2.97	ESTIMATION=	OLS
ARKA	974.69	+	.3402	ARKA	+	3.0673	INTR	+	-18.1745	ARKA				R SQAR BAR=	.980	DURBIN WAT=	.625
XMDR			(.70)	XT1		(1.22)	ICD*		(.96)	WMRL				AVER % ERR=	4.49	ESTIMATION=	C-O
CALF	932.76	+	.9064	CALF	+	166.2059	U.S.	+	-2.7059	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.253
XMDR			(8.19)	XT1		(2.87)	GEFD		(2.72)	TIMX				AVER % ERR=	1.99	ESTIMATION=	C-O
COLO	-148.06	+	.0165	COLO	+	4.8511	INTR	+	9.2830	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.964
XMDR			(.79)	X		(3.81)	ICD*		(1.85)	GEFD				AVER % ERR=	2.95	ESTIMATION=	C-O
CONN	4083.87	+	5.5932	INTR	+	61.7467	U.S.	+	-34.3882	CONN				R SQAR BAR=	.865	DURBIN WAT=	.744
XMDR			(3.50)	ICD*		(1.52)	GEFD		(.47)	WMRL				AVER % ERR=	5.00	ESTIMATION=	C-O
DELA	189.69	+	.4261	INTR	+	-.0781	U.S.							R SQAR BAR=	.166	DURBIN WAT=	.758
XMDR			(2.01)	ICD*		(1.62)	TIMX							AVER % ERR=	9.83	ESTIMATION=	OLS
D.C.			E X O G E N O U S														
FLOR	-483.85	+	.1757	FLOR	+	10.3026	INTR	+	23.9189	U.S.	+	-.3102	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.002
XMDR			(1.44)	XT1		(2.60)	ICD*		(2.41)	GEFD		(1.76)	TIMX	AVER % ERR=	2.70	ESTIMATION=	C-O
GEOR	-1865.73	+	.1119	GEOR	+	2.5193	INTR	+	12.7240	U.S.	+	-1.4120	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.385
XMDR			(1.86)	X		(2.49)	IX		(1.35)	GEFD		(6.31)	TIMX	AVER % ERR=	2.49	ESTIMATION=	C-O
HAWA	-19.32	+	.0120	HAWA	+	.3140	INTR	+	.7930	U.S.				R SQAR BAR=	.939	DURBIN WAT=	1.325
XMDR			(2.91)	X		(.80)	ICD*		(1.53)	GEFD				AVER % ERR=	4.48	ESTIMATION=	OLS
IDAH	-295.73	+	.0905	IDAH	+	2.0388	INTR	+	4.5691	U.S.				R SQAR BAR=	.981	DURBIN WAT=	1.488
XMDR			(3.39)	X		(4.01)	ICD*		(1.57)	GEFD				AVER % ERR=	4.35	ESTIMATION=	C-O
ILLI	-904.51	+	.0342	ILLI	+	28.3812	INTR	+	171.9927	U.S.				R SQAR BAR=	.959	DURBIN WAT=	1.370
XMDR			(.48)	X		(2.79)	ICD*		(2.46)	GEFD				AVER % ERR=	3.16	ESTIMATION=	OLS
INDI	1694.13	+	26.0844	INTR	+	43.5441	U.S.	+	-2.4840	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.008
XMDR			(12.10)	ICD*		(1.58)	GEFD		(5.68)	TIMX				AVER % ERR=	1.86	ESTIMATION=	C-O
IOWA	-604.88	+	.1111	IOWA	+	4.3008	INTR	+	-.1413	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.191
XMDR			(2.04)	X		(3.38)	ICD*		(1.08)	TIMX				AVER % ERR=	2.85	ESTIMATION=	OLS
KANS	940.29	+	.0572	KANS	+	3.7287	INTR	+	-12.6617	KANS				R SQAR BAR=	.972	DURBIN WAT=	.850
XMDR			(1.38)	X		(2.94)	ICD*		(1.62)	WMRL				AVER % ERR=	4.66	ESTIMATION=	OLS

ESTIMATION FOR: XMDR OUTPUT, MANUFACTURING, DURABLE GOODS (56)

KENT	-251.44	+	.3999	KENT	+	4.6129	INTR	+	-.0981	U.S.				R SQAR BAR=	.996	DURBIN WAT=	1.823
XMDR			(2.08)	XT1		(3.54)	ICD*		(1.56)	TIMX				AVER % ERR=	1.62	ESTIMATION=	OLS
LOUS	-421.41	+	.0482	LOUS	+	1.7920	INTR	+	4.6949	U.S.				R SQAR BAR=	.982	DURBIN WAT=	1.151
XMDR			(2.67)	X		(1.65)	ICD*		(.88)	GEFD				AVER % ERR=	3.06	ESTIMATION=	C-O
MAIN	-148.19	+	.2571	MAIN	+	.9468	INTR	+	6.0264	U.S.				R SQAR BAR=	.983	DURBIN WAT=	1.179
XMDR			(1.35)	XT1		(2.30)	ICD*		(3.09)	GEFD				AVER % ERR=	3.17	ESTIMATION=	OLS
MARY	556.92	+	.0628	MARY	+	1.6889	INTR	+	-.3731	U.S.				R SQAR BAR=	.950	DURBIN WAT=	1.136
XMDR			(1.10)	X		(1.76)	ICD*		(1.62)	TIMX				AVER % ERR=	2.89	ESTIMATION=	OLS
MASS	-481.55	+	.0919	MASS	+	5.8054	INTR	+	41.0389	U.S.				R SQAR BAR=	.960	DURBIN WAT=	1.101
XMDR			(1.01)	X		(1.21)	ICD*		(1.33)	GEFD				AVER % ERR=	2.85	ESTIMATION=	C-O
MICH	47446.16	+	55.2210	INTR	+	97.5957	U.S.	+	-363.7500	MICH				R SQAR BAR=	.712	DURBIN WAT=	1.022
XMDR			(3.10)	ICD*		(.41)	GEFD		(1.79)	WMRL				AVER % ERR=	6.58	ESTIMATION=	C-O
MINN	-1593.41	+	.0723	MINN	+	7.9417	INTR	+	58.0309	U.S.				R SQAR BAR=	.977	DURBIN WAT=	1.362
XMDR			(1.99)	X		(3.20)	ICD*		(4.16)	GEFD				AVER % ERR=	3.66	ESTIMATION=	OLS
MISS	-640.08	+	.6702	MISS	+	2.4764	INTR	+	15.5238	U.S.				R SQAR BAR=	.992	DURBIN WAT=	1.425
XMDR			(1.67)	XT1		(1.22)	ICD*		(2.99)	GEFD				AVER % ERR=	3.51	ESTIMATION=	OLS
MISR	-1226.21	+	.1034	MISR	+	8.7159	INTR	+	3.4491	U.S.				R SQAR BAR=	.988	DURBIN WAT=	1.105
XMDR			(1.44)	X		(2.14)	ICD*		(.18)	GEFD				AVER % ERR=	2.39	ESTIMATION=	C-O
MONT	-32.41	+	.0111	MONT	+	1.3314	INTR	+	2.4757	U.S.				R SQAR BAR=	.974	DURBIN WAT=	1.418
XMDR			(.57)	X		(6.76)	ICD*		(2.05)	GEFD				AVER % ERR=	3.30	ESTIMATION=	OLS
NEBR	-277.04	+	.0478	NEBR	+	1.7171	INTR	+	5.2483	U.S.				R SQAR BAR=	.975	DURBIN WAT=	.881
XMDR			(2.05)	X		(3.61)	ICD*		(1.43)	GEFD				AVER % ERR=	4.42	ESTIMATION=	OLS
NEVA	-2.08	+	.0318	NEVA	+	.3709	INTR	+	-.0413	U.S.				R SQAR BAR=	.950	DURBIN WAT=	.736
XMDR			(2.43)	X		(3.01)	ICD*		(2.28)	TIMX				AVER % ERR=	5.57	ESTIMATION=	OLS
NHAM	678.59	+	.2111	NHAM	+	1.3118	INTR	+	7.6356	U.S.	+	-11.9776	NHAM	R SQAR BAR=	.984	DURBIN WAT=	1.272
XMDR			(.73)	XT1		(3.40)	ICD*		(2.85)	GEFD		(3.46)	WMRL	AVER % ERR=	3.12	ESTIMATION=	OLS
NJER	30865.07	+	.0443	NJER	+	6.2237	INTR	+	-285.1100	NJER				R SQAR BAR=	.942	DURBIN WAT=	1.166
XMDR			(.76)	X		(1.91)	ICD*		(3.29)	WMRL				AVER % ERR=	3.54	ESTIMATION=	OLS
NMEX	-129.48	+	.0510	NMEX	+	.8935	INTR	+	-.0512	U.S.				R SQAR BAR=	.981	DURBIN WAT=	1.995
XMDR			(4.63)	X		(6.08)	ICD*		(2.76)	TIMX				AVER % ERR=	3.91	ESTIMATION=	OLS
NYOR	-2146.04	+	.0440	NYOR	+	10.8901	INTR	+	-7.6452	U.S.				R SQAR BAR=	.979	DURBIN WAT=	1.336
XMDR			(.92)	X		(4.81)	IX		(6.96)	TIMX				AVER % ERR=	1.40	ESTIMATION=	C-O
NCAR	-1229.37	+	.0471	NCAR	+	7.6551	INTR	+	12.2654	U.S.				R SQAR BAR=	.994	DURBIN WAT=	1.586
XMDR			(1.54)	X		(3.78)	ICD*		(1.20)	GEFD				AVER % ERR=	2.26	ESTIMATION=	C-O

ESTIMATION FOR: XMDR OUTPUT, MANUFACTURING, DURABLE GOODS (56)

NDAK	-122.84	+	.3378	NDAK	+	.0727	INTR							R SQAR BAR=	.777	DURBIN WAT=	.628
XMDR			(2.05)	X		(1.49)	IX							AVER % ERR=	31.07	ESTIMATION=	OLS
OHIO	-365.23	+	.0710	OHIO	+	29.2353	INTR	+	159.5678	U.S.				R SQAR BAR=	.967	DURBIN WAT=	1.551
XMDR			(.53)	X		(1.87)	ICD*		(1.78)	GEFD				AVER % ERR=	2.98	ESTIMATION=	OLS
OKLA	-263.88	+	.0646	OKLA	+	3.0971	INTR	+	-2.4990	OKLA				R SQAR BAR=	.998	DURBIN WAT=	2.377
XMDR			(4.60)	X		(6.90)	ICD*		(.70)	WMRL				AVER % ERR=	1.35	ESTIMATION=	C-O
OREG	1485.47	+	1.1179	OREG	+	5.6450	U.S.	+	-15.0693	OREG				R SQAR BAR=	.988	DURBIN WAT=	1.324
XMDR			(16.86)	XT1		(.56)	GEFD		(1.08)	WMRL				AVER % ERR=	2.50	ESTIMATION=	C-O
PENN	21998.35	+	.0771	PENN	+	13.9002	INTR	+	-205.4500	PENN				R SQAR BAR=	.965	DURBIN WAT=	.864
XMDR			(.45)	X		(1.06)	ICD*		(1.73)	WMRL				AVER % ERR=	2.62	ESTIMATION=	C-O
RHIS	-106.65	+	.0597	RHIS	+	1.0894	INTR	+	5.9204	U.S.				R SQAR BAR=	.971	DURBIN WAT=	.959
XMDR			(1.14)	X		(3.03)	ICD*		(1.18)	GEFD				AVER % ERR=	3.06	ESTIMATION=	OLS
SCAR	-346.38	+	.0996	SCAR	+	1.6187	INTR	+	-4.5800	SCAR				R SQAR BAR=	.997	DURBIN WAT=	2.327
XMDR			(4.71)	X		(2.65)	ICD*		(.92)	WMRL				AVER % ERR=	2.19	ESTIMATION=	C-O
SDAK	9.70	+	.0092	SDAK	+	.0882	INTR	+	-.9730	SDAK				R SQAR BAR=	.880	DURBIN WAT=	.414
XMDR			(.50)	X		(2.36)	IX		(.81)	WMRL				AVER % ERR=	16.73	ESTIMATION=	OLS
TENN	-463.48	+	.2286	TENN	+	7.2054	INTR	+	16.2575	U.S.	+	-3.9843	TENN	R SQAR BAR=	.997	DURBIN WAT=	1.388
XMDR			(1.01)	XT1		(3.21)	ICD*		(2.15)	GEFD		(.34)	WMRL	AVER % ERR=	1.77	ESTIMATION=	OLS
TEXA	-8098.76	+	.3443	TEXA	+	21.9173	INTR	+	85.6482	U.S.	+	55.5088	TEXA	R SQAR BAR=	.988	DURBIN WAT=	1.287
XMDR			(2.80)	XT1		(2.81)	ICD*		(3.03)	GEFD		(1.46)	WMRL	AVER % ERR=	3.20	ESTIMATION=	OLS
UTAH	100.42	+	.6392	UTAH	+	2.0099	U.S.							R SQAR BAR=	.986	DURBIN WAT=	.940
XMDR			(9.45)	XT1		(.69)	GEFD							AVER % ERR=	2.81	ESTIMATION=	C-O
VERM	-212.44	+	.0982	VERM	+	.5217	INTR	+	9.9934	U.S.				R SQAR BAR=	.840	DURBIN WAT=	.861
XMDR			(1.06)	X		(1.22)	ICD*		(2.60)	GEFD				AVER % ERR=	7.98	ESTIMATION=	OLS
VIRG	431.61	+	.0651	VIRG	+	3.5498	INTR	+	-16.4727	VIRG				R SQAR BAR=	.990	DURBIN WAT=	1.039
XMDR			(2.32)	X		(2.80)	ICD*		(.45)	WMRL				AVER % ERR=	3.15	ESTIMATION=	C-O
WASH	1700.83	+	20.6535	INTR	+	12.8899	U.S.	+	-15.6312	WASH				R SQAR BAR=	.940	DURBIN WAT=	1.012
XMDR			(8.63)	ICD*		(.59)	GEFD		(.83)	WMRL				AVER % ERR=	5.34	ESTIMATION=	OLS
WVIR	612.25	+	.5427	WVIR	+	.7431	INTR	+	-.2178	U.S.				R SQAR BAR=	.927	DURBIN WAT=	1.318
XMDR			(1.20)	XT1		(.61)	ICD*		(2.26)	TIMX				AVER % ERR=	2.62	ESTIMATION=	C-O
WISC	19467.24	+	.0816	WISC	+	7.9982	INTR	+	-188.2000	WISC				R SQAR BAR=	.956	DURBIN WAT=	1.117
XMDR			(1.09)	X		(2.16)	ICD*		(2.94)	WMRL				AVER % ERR=	3.29	ESTIMATION=	OLS
WYOM	-28.42	+	.0242	WYOM	+	.0165	INTR							R SQAR BAR=	.922	DURBIN WAT=	1.585
XMDR			(3.88)	X		(1.45)	IX							AVER % ERR=	8.19	ESTIMATION=	OLS

ESTIMATION FOR: XMND OUTPUT, MANUFACTURING, NONDURABLE GOODS (57)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976

ALAB	-192.66	+	11.6603	ALAB	+	1.6062	REGL	+	1.4799	U.S.	R SQAR BAR=	.986	DURBIN WAT=	1.399
XMND			(.80)	YT2		(.82)	DI*R		(1.92)	CCIP	AVER % ERR=	2.60	ESTIMATION=	C-O
ALAS	-13.94	+	.8237	ALAS	+	.3395	INTR				R SQAR BAR=	.894	DURBIN WAT=	1.391
XMND			(1.05)	YT2		(7.63)	IDI*				AVER % ERR=	7.23	ESTIMATION=	OLS
ARIS	-75.55	+	.0294	ARIS	+	.0634	INTR	+	.1813	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.644
XMND			(5.08)	X		(.55)	IDI*		(1.92)	CCIP	AVER % ERR=	2.31	ESTIMATION=	C-O
ARKA	-585.12	+	1.4213	ARKA	+	.8134	INTR	+	1.7373	U.S.	R SQAR BAR=	.977	DURBIN WAT=	1.475
XMND			(.37)	YT2		(5.12)	IX		(2.40)	CCIP	AVER % ERR=	3.92	ESTIMATION=	OLS
CALF	-958.97	+	.0427	CALF	+	9.9537	INTR	+	4.1322	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.190
XMND			(9.34)	X		(7.99)	IDI*		(2.63)	CCIP	AVER % ERR=	.94	ESTIMATION=	OLS
COLO	-113.49	+	7.9449	COLO	+	.3045	INTR	+	.6830	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.965
XMND			(8.14)	YT2		(2.50)	IDI*		(2.92)	CCIP	AVER % ERR=	1.93	ESTIMATION=	OLS
CONN	-24.61	+	.0272	CONN	+	.4095	INTR	+	1.8320	U.S.	R SQAR BAR=	.983	DURBIN WAT=	1.768
XMND			(1.61)	X		(3.00)	IDI*		(3.16)	CCIP	AVER % ERR=	1.91	ESTIMATION=	OLS
DELA	-1209.44	+	3.6735	REGL							R SQAR BAR=	.988	DURBIN WAT=	1.670
XMND			(13.45)	DIR*							AVER % ERR=	2.58	ESTIMATION=	C-O
D.C.	141.69	+	.2284	REGL							R SQAR BAR=	.941	DURBIN WAT=	1.738
XMND			(1.78)	DIR*							AVER % ERR=	3.21	ESTIMATION=	C-O
FLOR	-310.00	+	3.7271	FLOR	+	1.0899	INTR	+	1.1967	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.154
XMND			(7.73)	YT2		(6.49)	IX		(1.94)	CCIP	AVER % ERR=	2.05	ESTIMATION=	OLS
GEOR	-1135.37	+	5.9718	GEOR	+	1.9803	INTR	+	2.5376	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.147
XMND			(1.32)	YT2		(4.30)	IX		(2.11)	CCIP	AVER % ERR=	1.83	ESTIMATION=	OLS
HAWA	168.23	+	1.6695	HAWA	+	.0024	REGL	+	.2102	U.S.	R SQAR BAR=	.956	DURBIN WAT=	1.728
XMND			(.57)	YT2		(.02)	DI*R		(2.08)	CCIP	AVER % ERR=	2.20	ESTIMATION=	C-O
IDAH	-60.93	+	7.6880	IDAH	+	.5075	REGL	+	.3142	U.S.	R SQAR BAR=	.953	DURBIN WAT=	1.153
XMND			(2.94)	YT2		(1.91)	DI*R		(1.33)	CCIP	AVER % ERR=	5.22	ESTIMATION=	OLS
ILLI	244.29	+	12.5018	ILLI	+	1.2036	INTR	+	3.8224	U.S.	R SQAR BAR=	.962	DURBIN WAT=	1.061
XMND			(1.33)	YT2		(.53)	IDI*		(.94)	CCIP	AVER % ERR=	2.67	ESTIMATION=	OLS
INDI	242.49	+	.0712	INDI	+	.1707	INTR	+	.6604	U.S.	R SQAR BAR=	.979	DURBIN WAT=	1.425
XMND			(3.24)	X		(.54)	IDI*		(.72)	CCIP	AVER % ERR=	1.64	ESTIMATION=	C-O
IOWA	77.55	+	.5122	REGL	+	.2828	U.S.				R SQAR BAR=	.983	DURBIN WAT=	1.519
XMND			(1.56)	DIR*		(2.82)	TIMX				AVER % ERR=	2.37	ESTIMATION=	C-O
KANS	-277.21	+	9.2713	KANS	+	.2433	INTR	+	.4461	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.197
XMND			(6.60)	YT2		(3.70)	IX		(1.76)	CCIP	AVER % ERR=	1.57	ESTIMATION=	OLS

ESTIMATION FOR: XMND OUTPUT, MANUFACTURING, NONDURABLE GOODS (57)

KENT	-145.97	+	8.0203	KENT	+	1.2908	INTR	+	2.4762	U.S.	R SQAR BAR=	.985	DURBIN WAT=	1.300
XMND			(.98)	YT2		(2.70)	IDI*		(2.13)	CCIP	AVER % ERR=	2.08	ESTIMATION=	OLS
LOUS	-320.02	+	6.2680	LOUS	+	.9731	INTR	+	.7693	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.569
XMND			(1.52)	YT2		(3.03)	IX		(1.49)	CCIP	AVER % ERR=	1.71	ESTIMATION=	C-O
MAIN	-80.65	+	14.6975	MAIN	+	3.1178	REGL	+	-.1758	U.S.	R SQAR BAR=	.892	DURBIN WAT=	1.586
XMND			(1.21)	YT2		(1.82)	DI*R		(1.68)	TIMX	AVER % ERR=	3.32	ESTIMATION=	C-O
MARY	405.75	+	1.3977	REGL	+	1.6861	U.S.				R SQAR BAR=	.948	DURBIN WAT=	1.916
XMND			(3.84)	DIR*		(2.36)	CCIP				AVER % ERR=	3.05	ESTIMATION=	C-O
MASS	1173.39	+	1.7051	REGL	+	3.7476	U.S.				R SQAR BAR=	.866	DURBIN WAT=	1.734
XMND			(4.57)	DIR*		(2.49)	CCIP				AVER % ERR=	2.66	ESTIMATION=	C-O
MICH	-244.67	+	.0260	MICH	+	1.4782	INTR	+	2.8631	U.S.	R SQAR BAR=	.984	DURBIN WAT=	1.342
XMND			(4.64)	X		(9.26)	IDI*		(2.09)	CCIP	AVER % ERR=	1.96	ESTIMATION=	OLS
MINN	-885.23	+	6.7906	MINN	+	2.1969	INTR	+	1.7724	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.544
XMND			(1.35)	YT2		(3.61)	IDI*		(1.88)	CCIP	AVER % ERR=	1.89	ESTIMATION=	OLS
MISS	-181.67	+	9.2923	MISS	+	.2662	INTR	+	.3873	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.648
XMND			(3.84)	YT2		(2.90)	IX		(1.40)	CCIP	AVER % ERR=	2.04	ESTIMATION=	OLS
MISR	12.80	+	4.1075	MISR	+	1.0640	INTR	+	.8187	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.910
XMND			(.94)	YT2		(2.93)	IX		(.94)	CCIP	AVER % ERR=	1.69	ESTIMATION=	C-O
MONT	61.99	+	1.2616	MONT	+	.0198	INTR				R SQAR BAR=	.885	DURBIN WAT=	1.366
XMND			(1.28)	YT2		(.56)	IDI*				AVER % ERR=	2.92	ESTIMATION=	C-O
NEBR	-128.59	+	.0747	NEBR	+	.2502	REGL				R SQAR BAR=	.975	DURBIN WAT=	1.663
XMND			(4.02)	X		(.57)	DI*R				AVER % ERR=	3.15	ESTIMATION=	OLS
NEVA	-46.02	+	.0160	NEVA	+	.1014	INTR	+	-.0198	U.S.	R SQAR BAR=	.986	DURBIN WAT=	1.686
XMND			(3.18)	X		(2.59)	IDI*		(1.36)	TIMX	AVER % ERR=	3.14	ESTIMATION=	C-O
NHAM	-43.35	+	.0903	NHAM	+	.2337	INTR	+	-.1145	U.S.	R SQAR BAR=	.918	DURBIN WAT=	.956
XMND			(1.26)	X		(1.45)	IDI*		(2.15)	TIMX	AVER % ERR=	4.06	ESTIMATION=	OLS
NJER	-1512.18	+	6.3377	NJER	+	1.6429	INTR	+	2.9774	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.086
XMND			(1.03)	YT2		(3.37)	IX		(1.36)	CCIP	AVER % ERR=	1.55	ESTIMATION=	OLS
NMEX	-83.46	+	4.2388	NMEX	+	.0712	INTR	+	.0672	U.S.	R SQAR BAR=	.991	DURBIN WAT=	2.418
XMND			(4.58)	YT2		(3.21)	IX		(1.47)	CCIP	AVER % ERR=	2.91	ESTIMATION=	C-O
NYOR	-470.27	+	14.9019	REGL	+	-4.6686	U.S.				R SQAR BAR=	.893	DURBIN WAT=	2.264
XMND			(3.99)	DIR*		(3.09)	TIMX				AVER % ERR=	2.41	ESTIMATION=	C-O
NCAR	-717.86	+	7.6230	NCAR	+	2.6590	INTR	+	8.6243	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.613
XMND			(.88)	YT2		(3.27)	IX		(2.81)	CCIP	AVER % ERR=	2.60	ESTIMATION=	OLS

ESTIMATION FOR: XMND OUTPUT, MANUFACTURING, NONDURABLE GOODS (57)

NDAK	-30.46	+	.5656	NDAK	+	.0730	INTR	+	.1263	U.S.	R SQAR BAR=	.831	DURBIN WAT=	.372
XMND			(.77)	YT2		(4.37)	IX		(.94)	CCIP	AVER % ERR=	11.74	ESTIMATION=	OLS
OHIO	-847.14	+	.0952	OHIO	+	.8902	INTR	+	3.1608	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.105
XMND			(6.25)	X		(1.79)	IDI*		(1.85)	CCIP	AVER % ERR=	1.45	ESTIMATION=	OLS
OKLA	-221.91	+	5.8622	OKLA	+	.5386	INTR	+	.6062	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.288
XMND			(2.63)	YT2		(3.22)	IDI*		(2.64)	CCIP	AVER % ERR=	1.64	ESTIMATION=	OLS
OREG	-200.38	+	.0389	OREG	+	.7938	INTR	+	.3084	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.432
XMND			(2.53)	X		(2.32)	IDI*		(1.24)	CCIP	AVER % ERR=	1.86	ESTIMATION=	C-O
PENN	-1147.43	+	.1396	PENN	+	1.5883	INTR	+	-1.7970	U.S.	R SQAR BAR=	.983	DURBIN WAT=	1.566
XMND			(3.93)	X		(.99)	IDI*		(2.63)	TIMX	AVER % ERR=	1.33	ESTIMATION=	C-O
RHIS	185.22	+	2.9255	RHIS	+	.5685	REGL	+	.5861	U.S.	R SQAR BAR=	.833	DURBIN WAT=	1.651
XMND			(.18)	YT2		(.33)	DI*R		(1.48)	CCIP	AVER % ERR=	3.28	ESTIMATION=	C-O
SCAR	24.61	+	6.5824	REGL	+	3.9798	U.S.				R SQAR BAR=	.977	DURBIN WAT=	2.019
XMND			(14.27)	DIR*		(3.23)	CCIP				AVER % ERR=	3.50	ESTIMATION=	C-O
SDAK	19.29	+	1.0010	SDAK	+	.0640	INTR	+	.0944	U.S.	R SQAR BAR=	.921	DURBIN WAT=	1.542
XMND			(1.54)	YT2		(4.81)	IDI*		(1.23)	CCIP	AVER % ERR=	3.90	ESTIMATION=	OLS
TENN	-825.09	+	1.4975	TENN	+	1.6921	INTR	+	1.3410	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.221
XMND			(.55)	YT2		(9.02)	IX		(1.65)	CCIP	AVER % ERR=	1.38	ESTIMATION=	OLS
TEXA	-847.84	+	8.1692	TEXA	+	4.3446	INTR	+	4.4166	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.061
XMND			(3.81)	YT2		(3.68)	IDI*		(2.69)	CCIP	AVER % ERR=	1.68	ESTIMATION=	OLS
UTAH	-2.51	+	5.9521	UTAH	+	.0379	INTR	+	.1366	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.574
XMND			(9.40)	YT2		(1.76)	IX		(1.90)	CCIP	AVER % ERR=	1.60	ESTIMATION=	OLS
VERM	4.61	+	4.0118	VERM	+	.0939	REGL	+	.1334	U.S.	R SQAR BAR=	.937	DURBIN WAT=	1.520
XMND			(1.59)	YT2		(1.78)	DI*R		(1.39)	CCIP	AVER % ERR=	2.94	ESTIMATION=	OLS
VIRG	-411.07	+	2.1873	VIRG	+	1.0563	INTR	+	2.0777	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.584
XMND			(1.10)	YT2		(6.50)	IX		(2.46)	CCIP	AVER % ERR=	1.50	ESTIMATION=	OLS
WASH	292.68	+	.0262	WASH	+	3.0186	REGL				R SQAR BAR=	.954	DURBIN WAT=	1.894
XMND			(2.21)	X		(1.61)	DI*R				AVER % ERR=	2.51	ESTIMATION=	C-O
WVIR	608.81	+	.1452	REGL							R SQAR BAR=	.593	DURBIN WAT=	1.888
XMND			(1.58)	DIR*							AVER % ERR=	3.22	ESTIMATION=	C-O
WISC	-108.53	+	7.2849	WISC	+	.7556	INTR	+	2.4330	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.434
XMND			(2.66)	YT2		(4.06)	IX		(3.14)	CCIP	AVER % ERR=	1.49	ESTIMATION=	OLS
WYOM	-1.62	+	6.5702	WYOM	+	.0008	INTR	+	.0766	U.S.	R SQAR BAR=	.966	DURBIN WAT=	1.567
XMND			(10.04)	YT2		(.13)	IX		(1.86)	CCIP	AVER % ERR=	2.83	ESTIMATION=	OLS

ESTIMATION FOR: XTCU OUTPUT, TRANSPORTATION, COMMUNICATIONS & PUBLIC UTILITIES (58) LAG DEPENDENT VARIABLE: XTCL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1957 TO 1976 IN STATES: ALAS

ALAB	-460.93	+	.1056	ALAB	+	.2146	ALAB						R SQAR BAR=	.996	DURBIN WAT= 1.067
XTCU			(9.68)	Y*		(1.36)	PT1						AVER % ERR=	1.38	ESTIMATION= OLS
ALAS			E X O G E N O U S												
ARIS	-231.83	+	5.5396	INTR	+	.3253	ARIS	+	.0342	ARIS			R SQAR BAR=	.998	DURBIN WAT= 1.731
XTCU			(3.98)	IXTC		(3.12)	PT1		(2.22)	Y*			AVER % ERR=	1.25	ESTIMATION= C-O
ARKA	-55.22	+	.0745	ARKA	+	2.0115	INTR						R SQAR BAR=	.997	DURBIN WAT= 1.280
XTCU			(3.82)	Y*		(2.13)	IXTC						AVER % ERR=	1.12	ESTIMATION= C-O
CALF	-870.58	+	.0749	CALF	+	.3743	CALF						R SQAR BAR=	.995	DURBIN WAT= 1.418
XTCU			(4.95)	Y*		(2.93)	XTCL						AVER % ERR=	1.62	ESTIMATION= OLS
COLO	-481.98	+	.1614	COLO	+	.6857	COLO	+	.0360	COLO			R SQAR BAR=	.997	DURBIN WAT= 1.060
XTCU			(1.79)	XT3		(2.54)	PT1		(1.14)	Y*			AVER % ERR=	1.29	ESTIMATION= C-O
CONN	-102.67	+	.0367	CONN	+	.6304	CONN						R SQAR BAR=	.992	DURBIN WAT= 1.432
XTCU			(4.49)	Y*		(7.68)	XTCL						AVER % ERR=	1.44	ESTIMATION= OLS
DELA	-22.14	+	.0408	DELA	+	.7417	DELA						R SQAR BAR=	.985	DURBIN WAT= 1.918
XTCU			(2.94)	Y*		(6.76)	XTCL						AVER % ERR=	2.59	ESTIMATION= OLS
D.C.	-166.66	+	.0697	D.C.	+	.8898	D.C.						R SQAR BAR=	.991	DURBIN WAT= 2.081
XTCU			(3.28)	Y*		(14.13)	XTCL						AVER % ERR=	2.20	ESTIMATION= OLS
FLOR	-244.92	+	.1016	FLOR	+	.0745	FLOR						R SQAR BAR=	.999	DURBIN WAT= 1.254
XTCU			(16.97)	Y*		(1.33)	PT1						AVER % ERR=	1.20	ESTIMATION= OLS
GEOR	-1672.78	+	.1069	GEOR	+	.6554	GEOR						R SQAR BAR=	.998	DURBIN WAT= 1.618
XTCU			(6.57)	Y*		(3.00)	PT1						AVER % ERR=	1.26	ESTIMATION= C-O
HAWA	-57.58	+	.0690	HAWA	+	.6307	HAWA						R SQAR BAR=	.992	DURBIN WAT= 1.010
XTCU			(2.27)	Y*		(3.53)	XTCL						AVER % ERR=	3.40	ESTIMATION= OLS
IDAH	-48.48	+	.1514	IDAH	+	.4666	IDAH	+	.0301	IDAH			R SQAR BAR=	.991	DURBIN WAT= 1.161
XTCU			(2.94)	XT3		(2.20)	PT1		(1.78)	Y*			AVER % ERR=	1.66	ESTIMATION= C-O
ILLI	-561.69	+	.1011	ILLI	+	.2163	ILLI						R SQAR BAR=	.995	DURBIN WAT= 1.401
XTCU			(7.00)	Y*		(1.92)	XTCL						AVER % ERR=	1.22	ESTIMATION= OLS
INDI	-1502.60	+	.0343	INDI	+	.5980	INDI	+	.0536	INDI	+	.1692 INDI	R SQAR BAR=	.998	DURBIN WAT= 2.594
XTCU			(1.29)	XT4		(2.62)	PT1		(1.87)	Y*		(1.68) XTCL	AVER % ERR=	.74	ESTIMATION= OLS
IOWA	-986.65	+	.1404	IOWA	+	.7267	IOWA	+	.0309	IOWA			R SQAR BAR=	.993	DURBIN WAT= 1.566
XTCU			(3.41)	XT3		(3.44)	PT1		(2.35)	Y*			AVER % ERR=	1.25	ESTIMATION= C-O
KANS	-272.20	+	.2309	KANS	+	.3376	KANS	+	.0421	KANS			R SQAR BAR=	.992	DURBIN WAT= 1.765
XTCU			(6.43)	XT3		(1.77)	PT1		(3.53)	Y*			AVER % ERR=	1.54	ESTIMATION= OLS

ESTIMATION FOR: XTCU OUTPUT, TRANSPORTATION, COMMUNICATIONS & PUBLIC UTILITIES (58) LAG DEPENDENT VARIABLE: XTCL

KENT	61.92	+	.0685	KENT	+	1.8502	INTR							R SQAR BAR=	.995	DURBIN WAT=	1.107
XTCU			(3.35)	Y*		(1.59)	IXTC							AVER % ERR=	1.37	ESTIMATION=	OLS
LOUS	-345.30	+	.0758	LOUS	+	10.6488	INTR							R SQAR BAR=	.996	DURBIN WAT=	1.446
XTCU			(2.23)	Y*		(3.21)	IXTC							AVER % ERR=	1.23	ESTIMATION=	C-O
MAIN	-166.23	+	.2705	MAIN	+	.3057	MAIN	+	.0612	MAIN				R SQAR BAR=	.994	DURBIN WAT=	1.379
XTCU			(1.77)	XTCL		(2.30)	PT1		(5.74)	Y*				AVER % ERR=	1.27	ESTIMATION=	OLS
MARY	-228.72	+	.1236	MARY	+	.0763	MARY	+	.0634	MARY				R SQAR BAR=	.994	DURBIN WAT=	1.205
XTCU			(2.79)	XT4		(.30)	PT1		(3.06)	Y*				AVER % ERR=	1.77	ESTIMATION=	OLS
MASS	-321.85	+	.0591	MASS	+	.5211	MASS							R SQAR BAR=	.993	DURBIN WAT=	1.581
XTCU			(5.82)	Y*		(6.22)	XTCL							AVER % ERR=	1.58	ESTIMATION=	OLS
MICH	-795.97	+	.0863	MICH	+	.1455	MICH							R SQAR BAR=	.997	DURBIN WAT=	1.274
XTCU			(15.54)	Y*		(1.51)	PT1							AVER % ERR=	1.20	ESTIMATION=	OLS
MINN	-1401.76	+	.1086	MINN	+	.8804	MINN	+	.0332	MINN				R SQAR BAR=	.995	DURBIN WAT=	.963
XTCU			(2.58)	XT3		(4.53)	PT1		(1.67)	Y*				AVER % ERR=	1.37	ESTIMATION=	C-O
MISS	-593.07	+	.0991	MISS	+	.5563	MISS	+	.0415	MISS				R SQAR BAR=	.994	DURBIN WAT=	1.054
XTCU			(1.82)	XT3		(3.19)	PT1		(1.62)	Y*				AVER % ERR=	2.00	ESTIMATION=	OLS
MISR	-1511.97	+	.0447	MISR	+	.6027	MISR	+	.0515	MISR	+	.3466	MISR	R SQAR BAR=	.996	DURBIN WAT=	1.435
XTCU			(1.10)	XT4		(2.26)	PT1		(1.77)	Y*		(2.16)	XTCL	AVER % ERR=	1.10	ESTIMATION=	OLS
MONT	-353.99	+	.3321	MONT	+	1.2147	MONT	+	.0137	MONT				R SQAR BAR=	.976	DURBIN WAT=	1.030
XTCU			(3.23)	XT3		(4.25)	PT1		(.64)	Y*				AVER % ERR=	2.00	ESTIMATION=	C-O
NEBR	-255.71	+	.6474	NEBR	+	.2815	NEBR	+	.0417	NEBR				R SQAR BAR=	.993	DURBIN WAT=	2.259
XTCU			(5.89)	XTCL		(1.41)	PT1		(4.01)	Y*				AVER % ERR=	1.73	ESTIMATION=	OLS
NEVA	-88.20	+	.0869	NEVA	+	2.0245	INTR							R SQAR BAR=	.996	DURBIN WAT=	1.093
XTCU			(3.50)	Y*		(2.62)	IXTC							AVER % ERR=	2.05	ESTIMATION=	C-O
NHAM	-183.31	+	.0682	NHAM	+	.4782	NHAM							R SQAR BAR=	.997	DURBIN WAT=	1.913
XTCU			(5.09)	Y*		(3.18)	PT1							AVER % ERR=	1.45	ESTIMATION=	C-O
NJER	-2438.80	+	.0383	NJER	+	.5956	NJER	+	.0537	NJER	+	.2559	NJER	R SQAR BAR=	.998	DURBIN WAT=	2.637
XTCU			(1.22)	XT4		(2.30)	PT1		(1.88)	Y*		(1.83)	XTCL	AVER % ERR=	.86	ESTIMATION=	OLS
NMEX	-23.31	+	.0888	NMEX	+	1.9187	INTR							R SQAR BAR=	.995	DURBIN WAT=	1.512
XTCU			(4.70)	Y*		(3.06)	IXTC							AVER % ERR=	1.28	ESTIMATION=	C-O
NYOR	-1188.57	+	.1090	NYOR	+	9.0085	INTR							R SQAR BAR=	.994	DURBIN WAT=	1.795
XTCU			(9.54)	Y*		(2.76)	IXTC							AVER % ERR=	1.27	ESTIMATION=	OLS
NCAR	-1112.64	+	.0453	NCAR	+	.3844	NCAR	+	.0756	NCAR				R SQAR BAR=	.998	DURBIN WAT=	1.539
XTCU			(1.82)	XT3		(1.84)	PT1		(3.09)	Y*				AVER % ERR=	1.17	ESTIMATION=	C-O

ESTIMATION FOR: XTCU OUTPUT, TRANSPORTATION, COMMUNICATIONS & PUBLIC UTILITIES (58) LAG DEPENDENT VARIABLE: XTCL

NDAK	-150.87	+	.3485	NDAK	+	.7579	NDAK	+	.0179	NDAK				R SQAR BAR=	.988	DURBIN WAT=	1.293
XTCU			(4.54)	XT3		(2.98)	PT1		(4.26)	Y*				AVER % ERR=	1.24	ESTIMATION=	C-O
OHIO	-1861.67	+	.0327	OHIO	+	.2653	OHIO	+	.0912	OHIO				R SQAR BAR=	.998	DURBIN WAT=	1.457
XTCU			(1.77)	XT3		(1.60)	PT1		(5.09)	Y*				AVER % ERR=	.85	ESTIMATION=	OLS
OKLA	-654.68	+	.2871	OKLA	+	.3863	OKLA	+	.1026	OKLA				R SQAR BAR=	.997	DURBIN WAT=	2.350
XTCU			(1.78)	XTCL		(1.27)	PT1		(4.93)	Y*				AVER % ERR=	1.22	ESTIMATION=	OLS
OREG	-80.80	+	.0903	OREG	+	6.1235	INTR							R SQAR BAR=	.998	DURBIN WAT=	1.155
XTCU			(5.43)	Y*		(3.03)	IXTC							AVER % ERR=	1.18	ESTIMATION=	OLS
PENN	-3042.20	+	.0289	PENN	+	.4474	PENN	+	.0537	PENN	+	.3028	PENN	R SQAR BAR=	.991	DURBIN WAT=	1.205
XTCU			(.91)	XT4		(1.02)	PT1		(1.65)	Y*		(1.89)	XTCL	AVER % ERR=	1.30	ESTIMATION=	OLS
RHIS	-314.74	+	.0682	RHIS	+	.6732	RHIS	+	.0313	RHIS				R SQAR BAR=	.992	DURBIN WAT=	1.197
XTCU			(2.13)	XT4		(2.43)	PT1		(1.53)	Y*				AVER % ERR=	1.55	ESTIMATION=	C-O
SCAR	-71.83	+	.0765	SCAR	+	.2064	SCAR							R SQAR BAR=	.994	DURBIN WAT=	.900
XTCU			(6.31)	Y*		(1.57)	XTCL							AVER % ERR=	2.25	ESTIMATION=	C-O
SDAK	-188.59	+	.3643	SDAK	+	.7011	SDAK	+	.0169	SDAK				R SQAR BAR=	.954	DURBIN WAT=	.986
XTCU			(1.32)	XT3		(1.38)	PT1		(1.28)	Y*				AVER % ERR=	3.86	ESTIMATION=	C-O
TENN	-77.72	+	.0666	TENN	+	.3569	TENN							R SQAR BAR=	.996	DURBIN WAT=	1.535
XTCU			(7.66)	Y*		(3.88)	XTCL							AVER % ERR=	1.59	ESTIMATION=	OLS
TEXA	-2560.76	+	.0635	TEXA	+	.6299	TEXA	+	.0646	TEXA				R SQAR BAR=	.996	DURBIN WAT=	1.577
XTCU			(.84)	XT3		(1.93)	PT1		(1.53)	Y*				AVER % ERR=	1.31	ESTIMATION=	C-O
UTAH	-37.50	+	.0561	UTAH	+	.6985	UTAH							R SQAR BAR=	.995	DURBIN WAT=	1.775
XTCU			(3.70)	Y*		(6.50)	XTCL							AVER % ERR=	1.62	ESTIMATION=	OLS
VERM	-82.96	+	.0652	VERM	+	.4621	VERM							R SQAR BAR=	.991	DURBIN WAT=	1.201
XTCU			(3.26)	Y*		(1.90)	PT1							AVER % ERR=	2.03	ESTIMATION=	C-O
VIRG	28.79	+	.0767	VIRG	+	.2154	VIRG							R SQAR BAR=	.996	DURBIN WAT=	1.787
XTCU			(7.75)	Y*		(2.03)	XTCL							AVER % ERR=	1.46	ESTIMATION=	OLS
WASH	-135.54	+	.0837	WASH	+	5.1043	INTR							R SQAR BAR=	.998	DURBIN WAT=	1.109
XTCU			(7.58)	Y*		(2.18)	IXTC							AVER % ERR=	1.08	ESTIMATION=	OLS
WVIR	217.83	+	.0655	WVIR	+	1.6293	INTR							R SQAR BAR=	.982	DURBIN WAT=	1.598
XTCU			(2.06)	Y*		(2.22)	IXTC							AVER % ERR=	1.67	ESTIMATION=	C-O
WISC	-770.88	+	.0833	WISC	+	.3083	WISC							R SQAR BAR=	.994	DURBIN WAT=	1.012
XTCU			(7.95)	Y*		(1.93)	PT1							AVER % ERR=	1.54	ESTIMATION=	OLS
WYOM	-13.37	+	.0487	WYOM	+	.8045	WYOM							R SQAR BAR=	.985	DURBIN WAT=	1.393
XTCU			(2.98)	Y*		(7.95)	XTCL							AVER % ERR=	2.43	ESTIMATION=	OLS

ESTIMATION FOR: XWRT OUTPUT, WHOLESALE & RETAIL TRADE (59) LAG DEPENDENT VARIABLE: XWRL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976

ALAB	-133.44	+	.1828	ALAB	+	1.1672	INTR				R SQAR BAR=	.998	DURBIN WAT=	1.539
XWRT			(11.77)	RS*		(13.61)	IDI*				AVER % ERR=	.85	ESTIMATION=	OLS
ALAS	-3.54	+	.1141	ALAS	+	.7475	ALAS				R SQAR BAR=	.953	DURBIN WAT=	2.090
XWRT			(1.63)	RS*		(2.80)	XWRL				AVER % ERR=	5.65	ESTIMATION=	OLS
ARIS	-465.65	+	.1580	ARIS	+	2.2151	INTR				R SQAR BAR=	.995	DURBIN WAT=	1.013
XWRT			(7.21)	RS*		(11.34)	IDI*				AVER % ERR=	1.99	ESTIMATION=	OLS
ARKA	-212.95	+	.1534	ARKA	+	1.1474	INTR	+	8.2029	U.S.	R SQAR BAR=	.993	DURBIN WAT=	.982
XWRT			(2.65)	RS*		(2.93)	IRS*		(1.98)	TIME	AVER % ERR=	1.81	ESTIMATION=	OLS
CALF	-393.74	+	.2206	CALF	+	26.8384	INTR				R SQAR BAR=	.997	DURBIN WAT=	2.118
XWRT			(3.75)	RS*		(3.95)	IDI*				AVER % ERR=	.92	ESTIMATION=	C-O
COLO	-441.50	+	.1258	COLO	+	2.6153	INTR	+	38.8238	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.334
XWRT			(2.39)	RS*		(2.03)	IRS*		(3.44)	TIME	AVER % ERR=	1.82	ESTIMATION=	C-O
CONN	-1362.15	+	.1856	CONN	+	3.3725	REGL				R SQAR BAR=	.990	DURBIN WAT=	1.253
XWRT			(3.11)	RS*		(4.50)	DI*R				AVER % ERR=	1.66	ESTIMATION=	C-O
DELA	-120.13	+	.0319	DELA	+	.2146	INTR				R SQAR BAR=	.992	DURBIN WAT=	1.524
XWRT			(2.03)	RS*		(16.19)	IDI*				AVER % ERR=	1.75	ESTIMATION=	OLS
D.C.	-220.74	+	.3615	D.C.	+	1.1448	REGL				R SQAR BAR=	.504	DURBIN WAT=	.760
XWRT			(4.55)	RS*		(4.35)	DI*R				AVER % ERR=	5.52	ESTIMATION=	OLS
FLOR	-586.76	+	.0451	FLOR	+	7.2859	INTR				R SQAR BAR=	.997	DURBIN WAT=	1.411
XWRT			(2.90)	RS*		(10.78)	IDI*				AVER % ERR=	1.21	ESTIMATION=	C-O
GEOR	-821.23	+	.1726	GEOR	+	2.8497	INTR				R SQAR BAR=	.997	DURBIN WAT=	1.294
XWRT			(4.11)	RS*		(5.45)	IDI*				AVER % ERR=	1.30	ESTIMATION=	C-O
HAWA	-187.60	+	.2336	HAWA	+	3.1999	INTR				R SQAR BAR=	.994	DURBIN WAT=	1.194
XWRT			(2.98)	RS*		(3.25)	IDI*				AVER % ERR=	2.12	ESTIMATION=	OLS
IDAH	-260.02	+	.3066	IDAH	+	.6149	INTR				R SQAR BAR=	.990	DURBIN WAT=	1.044
XWRT			(4.92)	RS*		(4.94)	IDI*				AVER % ERR=	1.97	ESTIMATION=	C-O
ILLI	972.90	+	.1799	ILLI	+	4.7046	INTR				R SQAR BAR=	.997	DURBIN WAT=	2.071
XWRT			(4.26)	RS*		(7.12)	IDI*				AVER % ERR=	.64	ESTIMATION=	C-O
INDI	-189.46	+	.1820	INDI	+	2.4367	INTR				R SQAR BAR=	.991	DURBIN WAT=	1.133
XWRT			(1.51)	RS*		(1.86)	IRS*				AVER % ERR=	1.26	ESTIMATION=	C-O
IOWA	1182.90	+	13.4887	IOWA							R SQAR BAR=	.966	DURBIN WAT=	.607
XWRT			(24.01)	YT1							AVER % ERR=	3.07	ESTIMATION=	OLS
KANS	-265.67	+	.1498	KANS	+	.8725	INTR	+	46.3587	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.336
XWRT			(2.17)	RS*		(1.42)	IRS*		(5.92)	TIME	AVER % ERR=	.97	ESTIMATION=	C-O

ESTIMATION FOR: XWRT OUTPUT, WHOLESALE & RETAIL TRADE (59) LAG DEPENDENT VARIABLE: XWRL

KENT	-302.37	+	.1415	KENT	+	1.1281	INTR				R SQAR BAR=	.997	DURBIN WAT=	1.808
XWRT			(6.20)	RS*		(12.82)	IDI*				AVER % ERR=	1.06	ESTIMATION=	OLS
LOUS	-194.79	+	.1620	LOUS	+	3.4181	INTR				R SQAR BAR=	.989	DURBIN WAT=	1.525
XWRT			(1.63)	RS*		(2.50)	IRS*				AVER % ERR=	1.61	ESTIMATION=	C-O
MAIN	-163.47	+	.2517	MAIN	+	1.9724	REGL				R SQAR BAR=	.985	DURBIN WAT=	.973
XWRT			(8.00)	RS*		(6.98)	DI*R				AVER % ERR=	2.14	ESTIMATION=	OLS
MARY	-1342.23	+	.2166	MARY	+	4.7227	REGL				R SQAR BAR=	.996	DURBIN WAT=	1.738
XWRT			(3.52)	RS*		(4.40)	DI*R				AVER % ERR=	1.53	ESTIMATION=	C-O
MASS	-1510.69	+	.1105	MASS	+	6.1318	REGL				R SQAR BAR=	.991	DURBIN WAT=	1.476
XWRT			(2.62)	RS*		(7.59)	DI*R				AVER % ERR=	1.30	ESTIMATION=	C-O
MICH	-198.04	+	.2263	MICH	+	2.6183	INTR				R SQAR BAR=	.994	DURBIN WAT=	1.469
XWRT			(4.94)	RS*		(2.95)	IDI*				AVER % ERR=	1.19	ESTIMATION=	C-O
MINN	-292.82	+	.1080	MINN	+	1.9925	INTR	+	87.8337	U.S.	R SQAR BAR=	.994	DURBIN WAT=	.532
XWRT			(.92)	RS*		(1.10)	IRS*		(8.81)	TIME	AVER % ERR=	1.58	ESTIMATION=	OLS
MISS	-173.77	+	.2278	MISS	+	.6765	INTR				R SQAR BAR=	.993	DURBIN WAT=	1.357
XWRT			(6.28)	RS*		(4.88)	IDI*				AVER % ERR=	1.81	ESTIMATION=	OLS
MISR	219.09	+	.0880	MISR	+	2.7358	INTR				R SQAR BAR=	.995	DURBIN WAT=	2.149
XWRT			(1.76)	RS*		(10.18)	IDI*				AVER % ERR=	.97	ESTIMATION=	C-O
MONT	-79.78	+	.3232	MONT	+	2.4337	REGL				R SQAR BAR=	.932	DURBIN WAT=	1.369
XWRT			(3.10)	RS*		(1.49)	DI*R				AVER % ERR=	2.98	ESTIMATION=	C-O
NEBR	-324.50	+	.0843	NEBR	+	1.1034	INTR	+	.6156	NEBR	R SQAR BAR=	.996	DURBIN WAT=	1.302
XWRT			(3.86)	RS*		(4.78)	IRS*		(7.67)	XWRL	AVER % ERR=	1.13	ESTIMATION=	OLS
NEVA	-227.63	+	.0837	NEVA	+	.7545	REGL				R SQAR BAR=	.991	DURBIN WAT=	1.605
XWRT			(2.05)	RS*		(6.25)	DI*R				AVER % ERR=	2.69	ESTIMATION=	C-O
NHAM	-156.83	+	.1410	NHAM	+	1.8042	REGL				R SQAR BAR=	.995	DURBIN WAT=	1.423
XWRT			(13.91)	RS*		(12.16)	DI*R				AVER % ERR=	1.54	ESTIMATION=	OLS
NJER	-4587.60	+	.2187	NJER	+	7.9442	REGL				R SQAR BAR=	.993	DURBIN WAT=	1.149
XWRT			(3.56)	RS*		(5.44)	DI*R				AVER % ERR=	1.65	ESTIMATION=	C-O
NMEX	-18.66	+	.1927	NMEX	+	.5511	INTR				R SQAR BAR=	.990	DURBIN WAT=	1.350
XWRT			(6.30)	RS*		(4.59)	IDI*				AVER % ERR=	1.75	ESTIMATION=	C-O
NYOR	-608.86	+	.3522	NYOR	+	3.7428	INTR				R SQAR BAR=	.984	DURBIN WAT=	1.394
XWRT			(3.22)	RS*		(2.66)	IDI*				AVER % ERR=	1.50	ESTIMATION=	C-O
NCAR	-849.58	+	.1656	NCAR	+	2.2450	INTR				R SQAR BAR=	.996	DURBIN WAT=	1.154
XWRT			(4.93)	RS*		(8.17)	IDI*				AVER % ERR=	1.35	ESTIMATION=	OLS

ESTIMATION FOR: XWRT OUTPUT, WHOLESALE & RETAIL TRADE (59) LAG DEPENDENT VARIABLE: XWRL

NDAK	285.83	+	14.8880	NDAK							R SQAR BAR=	.890	DURBIN WAT=	1.111
XWRT			(12.74)	YT1							AVER % ERR=	4.45	ESTIMATION=	OLS
OHIO	1759.70	+	.1814	OHIO	+	3.8231	INTR				R SQAR BAR=	.992	DURBIN WAT=	1.108
XWRT			(1.72)	RS*		(1.41)	IRS*				AVER % ERR=	1.29	ESTIMATION=	C-O
OKLA	85.28	+	.1807	OKLA	+	1.1265	INTR	+	11.4953	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.433
XWRT			(3.47)	RS*		(1.72)	IRS*		(2.27)	TIME	AVER % ERR=	1.63	ESTIMATION=	OLS
OREG	-308.50	+	.1468	OREG	+	3.8625	INTR	+	.1684	OREG	R SQAR BAR=	.995	DURBIN WAT=	1.300
XWRT			(1.20)	RS*		(1.64)	IRS*		(1.32)	XWRL	AVER % ERR=	1.16	ESTIMATION=	C-O
PENN	-663.87	+	.2015	PENN	+	4.0177	REGL				R SQAR BAR=	.994	DURBIN WAT=	1.257
XWRT			(7.68)	RS*		(10.47)	DI*R				AVER % ERR=	1.08	ESTIMATION=	OLS
RHIS	-83.60	+	.0825	RHIS	+	2.2375	REGL				R SQAR BAR=	.985	DURBIN WAT=	1.223
XWRT			(2.02)	RS*		(10.11)	DI*R				AVER % ERR=	1.66	ESTIMATION=	OLS
SCAR	-320.76	+	.1414	SCAR	+	1.0603	INTR				R SQAR BAR=	.996	DURBIN WAT=	1.585
XWRT			(3.70)	RS*		(5.44)	IDI*				AVER % ERR=	1.56	ESTIMATION=	C-O
SDAK	-43.95	+	.0213	SDAK	+	1.0736	SDAK				R SQAR BAR=	.973	DURBIN WAT=	2.069
XWRT			(.46)	RS*		(25.59)	XWRL				AVER % ERR=	2.58	ESTIMATION=	OLS
TENN	-412.11	+	.2120	TENN	+	1.4795	INTR				R SQAR BAR=	.995	DURBIN WAT=	1.943
XWRT			(8.34)	RS*		(8.09)	IDI*				AVER % ERR=	1.32	ESTIMATION=	OLS
TEXA	-3482.11	+	.1873	TEXA	+	22.6442	INTR				R SQAR BAR=	.986	DURBIN WAT=	1.198
XWRT			(1.52)	RS*		(2.24)	IRS*				AVER % ERR=	2.49	ESTIMATION=	C-O
UTAH	-33.77	+	.1601	UTAH	+	.7336	INTR	+	14.5562	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.123
XWRT			(7.03)	RS*		(2.61)	IRS*		(7.05)	TIME	AVER % ERR=	1.14	ESTIMATION=	OLS
VERM	-87.41	+	.2270	VERM	+	.1208	INTR				R SQAR BAR=	.985	DURBIN WAT=	.970
XWRT			(3.88)	RS*		(2.76)	IDI*				AVER % ERR=	2.75	ESTIMATION=	OLS
VIRG	-862.33	+	.1222	VIRG	+	6.7841	REGL				R SQAR BAR=	.999	DURBIN WAT=	1.138
XWRT			(6.52)	RS*		(17.45)	DI*R				AVER % ERR=	.89	ESTIMATION=	OLS
WASH	-531.70	+	.3179	WASH	+	3.8859	INTR				R SQAR BAR=	.994	DURBIN WAT=	1.068
XWRT			(5.52)	RS*		(5.54)	IDI*				AVER % ERR=	1.53	ESTIMATION=	OLS
WVIR	63.72	+	.1767	WVIR	+	.3504	INTR	+	11.3792	U.S.	R SQAR BAR=	.982	DURBIN WAT=	1.214
XWRT			(3.80)	RS*		(1.15)	IRS*		(2.15)	TIME	AVER % ERR=	2.12	ESTIMATION=	OLS
WISC	-811.53	+	.1607	WISC	+	2.2687	INTR				R SQAR BAR=	.993	DURBIN WAT=	1.109
XWRT			(3.68)	RS*		(9.68)	IDI*				AVER % ERR=	1.66	ESTIMATION=	OLS
WYOM	-51.59	+	.1515	WYOM	+	.3221	INTR				R SQAR BAR=	.954	DURBIN WAT=	1.051
XWRT			(2.28)	RS*		(4.78)	IDI*				AVER % ERR=	3.84	ESTIMATION=	C-O

ESTIMATION FOR: XFIR OUTPUT, FINANCE, INSURANCE & REAL ESTATE (60) LAG DEPENDENT VARIABLE: XFIL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1957 TO 1976 IN STATES: ALAS

ALAB	-2705.96	+	.0683	ALAB	+	1.7334	ALAB	+	-.2014	U.S.				R SQAR BAR=	.992	DURBIN WAT=	1.879
XFIR			(3.15)	Y*		(5.44)	PT1		(2.24)	TIMX				AVER % ERR=	1.87	ESTIMATION=	OLS
ALAS	-15.30	+	.0494	ALAS	+	.7285	ALAS	+	.3218	ALAS				R SQAR BAR=	.992	DURBIN WAT=	1.299
XFIR			(2.58)	Y*		(4.90)	XFIL		(2.96)	XCMP				AVER % ERR=	3.61	ESTIMATION=	OLS
ARIS	-221.23	+	.0506	ARIS	+	.6130	ARIS	+	1.6017	ARIZ	+	.3915	ARIZ	R SQAR BAR=	.997	DURBIN WAT=	1.465
XFIR			(1.90)	Y*		(1.82)	PT1		(1.56)	XCMP		(1.88)	XFIL	AVER % ERR=	1.44	ESTIMATION=	OLS
ARKA	-415.67	+	.0532	ARKA	+	.5055	ARKA	+	.9634	ARKA	+	.1324	U.S.	R SQAR BAR=	.992	DURBIN WAT=	2.195
XFIR			(2.26)	Y*		(1.73)	PT1		(1.14)	XCMP		(3.12)	TIMX	AVER % ERR=	1.88	ESTIMATION=	OLS
CALF	-19375.60	+	.1189	CALF	+	2.9964	CALF	+	40.9058	CALF	+	-6.5736	U.S.	R SQAR BAR=	.993	DURBIN WAT=	2.276
XFIR			(2.41)	Y*		(2.87)	PT1		(1.63)	XCMP		(1.70)	TIMX	AVER % ERR=	1.42	ESTIMATION=	OLS
COLO	-2927.92	+	.1569	COLO	+	16.6246	INTR							R SQAR BAR=	.992	DURBIN WAT=	1.481
XFIR			(3.75)	Y*		(1.44)	IP							AVER % ERR=	2.23	ESTIMATION=	C-O
CONN	-13.88	+	.0234	CONN	+	.9313	CONN							R SQAR BAR=	.993	DURBIN WAT=	2.074
XFIR			(1.68)	Y*		(15.52)	XFIL							AVER % ERR=	1.62	ESTIMATION=	OLS
DELA	-525.48	+	.0553	DELA	+	2.5047	DELA	+	.5354	DELA	+	-.0622	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.313
XFIR			(1.51)	Y*		(5.19)	PT1		(1.33)	XCMP		(2.26)	TIMX	AVER % ERR=	2.12	ESTIMATION=	OLS
D.C.	-420.75	+	.3526	D.C.	+	.5048	REGL							R SQAR BAR=	.985	DURBIN WAT=	1.845
XFIR			(5.82)	Y*		(1.16)	DI*R							AVER % ERR=	1.98	ESTIMATION=	OLS
FLOR	-2437.52	+	.1053	FLOR	+	1.6618	FLOR	+	7.8293	FLOR	+	-1.2470	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.603
XFIR			(4.72)	Y*		(6.18)	PT1		(1.54)	XCMP		(6.59)	TIMX	AVER % ERR=	1.13	ESTIMATION=	OLS
GEOR	-7058.27	+	.0553	GEOR	+	3.8773	GEOR	+	4.1391	GEOR	+	-1.0513	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.107
XFIR			(1.68)	Y*		(5.06)	PT1		(.82)	XCMP		(3.47)	TIMX	AVER % ERR=	1.94	ESTIMATION=	OLS
HAWA	-129.58	+	.0875	HAWA	+	.1649	HAWA	+	1.5240	HAWA	+	.6616	HAWA	R SQAR BAR=	.993	DURBIN WAT=	2.123
XFIR			(2.03)	Y*		(.40)	PT1		(1.82)	XCMP		(3.46)	XFIL	AVER % ERR=	2.73	ESTIMATION=	OLS
IDAH	-19.77	+	.0261	IDAH	+	.9081	IDAH							R SQAR BAR=	.989	DURBIN WAT=	1.555
XFIR			(2.16)	Y*		(8.70)	XFIL							AVER % ERR=	2.14	ESTIMATION=	OLS
ILLI	-11441.00	+	.0746	ILLI	+	46.1768	INTR							R SQAR BAR=	.972	DURBIN WAT=	.683
XFIR			(2.08)	Y*		(3.08)	IP							AVER % ERR=	2.50	ESTIMATION=	OLS
INDI	-2855.51	+	.0388	INDI	+	1.5112	INDI							R SQAR BAR=	.987	DURBIN WAT=	2.132
XFIR			(1.63)	Y*		(3.84)	PT1							AVER % ERR=	1.52	ESTIMATION=	C-O
IOWA	-2218.16	+	1.5937	IOWA	+	1.0724	REGL							R SQAR BAR=	.968	DURBIN WAT=	1.734
XFIR			(2.92)	PT1		(3.11)	DI*R							AVER % ERR=	2.46	ESTIMATION=	C-O
KANS	-1525.95	+	.0865	KANS	+	1.3169	KANS	+	6.5380	KANS				R SQAR BAR=	.955	DURBIN WAT=	.823
XFIR			(4.05)	Y*		(2.58)	PT1		(1.88)	XCMP				AVER % ERR=	3.50	ESTIMATION=	OLS

ESTIMATION FOR: XFIR OUTPUT, FINANCE, INSURANCE & REAL ESTATE (60) LAG DEPENDENT VARIABLE: XFIL

KENT	-1735.66	+	.0427	KENT	+	1.2259	KENT	+	3.5153	KENT			R SQAR BAR=	.988	DURBIN WAT= 1.192
XFIR			(1.83)	Y*		(3.35)	PT1		(2.12)	XCMP			AVER % ERR=	2.00	ESTIMATION= OLS
LOUS	-3682.41	+	.0555	LOUS	+	18.7149	INTR	+	2.3950	LOUS			R SQAR BAR=	.992	DURBIN WAT= 1.592
XFIR			(1.43)	Y*		(2.40)	IP		(1.36)	XCMP			AVER % ERR=	1.74	ESTIMATION= C-O
MAIN	-203.85	+	.0369	MAIN	+	.5274	MAIN	+	.0877	U.S.			R SQAR BAR=	.992	DURBIN WAT= 1.539
XFIR			(2.03)	Y*		(3.90)	PT1		(5.29)	TIMX			AVER % ERR=	1.63	ESTIMATION= OLS
MARY	-266.33	+	.1191	MARY	+	1.3027	REGL						R SQAR BAR=	.990	DURBIN WAT= 1.640
XFIR			(2.45)	Y*		(.67)	DI*R						AVER % ERR=	1.99	ESTIMATION= C-O
MASS	-1069.45	+	.0414	MASS	+	8.4233	INTR	+	.9382	U.S.			R SQAR BAR=	.993	DURBIN WAT= 1.669
XFIR			(1.71)	Y*		(1.73)	IP		(4.48)	TIMX			AVER % ERR=	1.22	ESTIMATION= OLS
MICH	41.70	+	.0235	MICH	+	.8299	MICH	+	5.6702	MICH			R SQAR BAR=	.993	DURBIN WAT= 2.666
XFIR			(1.36)	Y*		(5.45)	XFIL		(1.18)	XCMP			AVER % ERR=	1.24	ESTIMATION= OLS
MINN	-3073.21	+	2.3297	MINN	+	.0808	INTR						R SQAR BAR=	.992	DURBIN WAT= 1.607
XFIR			(6.03)	PT1		(.22)	IY*						AVER % ERR=	1.42	ESTIMATION= C-O
MISS	-418.73	+	.0199	MISS	+	.3795	MISS	+	.7472	MISS			R SQAR BAR=	.997	DURBIN WAT= 2.484
XFIR			(1.54)	Y*		(1.85)	PT1		(5.09)	XFIL			AVER % ERR=	1.31	ESTIMATION= OLS
MISR	-3729.42	+	.0559	MISR	+	18.3505	INTR	+	3.2359	MISR			R SQAR BAR=	.991	DURBIN WAT= 1.673
XFIR			(2.63)	Y*		(5.32)	IP		(.89)	XCMP			AVER % ERR=	1.21	ESTIMATION= OLS
MONT	-16.74	+	.0165	MONT	+	.9497	MONT	+	.9247	MONT			R SQAR BAR=	.974	DURBIN WAT= 1.507
XFIR			(1.64)	Y*		(9.62)	XFIL		(1.78)	XCMP			AVER % ERR=	2.13	ESTIMATION= OLS
NEBR	-1756.14	+	2.6303	NEBR	+	.2581	INTR						R SQAR BAR=	.981	DURBIN WAT= 1.943
XFIR			(4.24)	PT1		(1.50)	IY*						AVER % ERR=	2.21	ESTIMATION= C-O
NEVA	-64.23	+	.0531	NEVA	+	.9495	NEVA	+	.3645	NEVA			R SQAR BAR=	.992	DURBIN WAT= 1.000
XFIR			(1.67)	Y*		(3.08)	PT1		(1.74)	XCMP			AVER % ERR=	2.40	ESTIMATION= OLS
NHAM	-260.27	+	.0201	NHAM	+	1.0781	NHAM	+	.7341	NHAM	+	.2653 NHAM	R SQAR BAR=	.992	DURBIN WAT= 2.116
XFIR			(.79)	Y*		(2.47)	PT1		(1.30)	XCMP		(1.19) XFIL	AVER % ERR=	1.71	ESTIMATION= OLS
NJER	143.77	+	.0243	NJER	+	.8390	NJER						R SQAR BAR=	.992	DURBIN WAT= 2.680
XFIR			(1.65)	Y*		(7.80)	XFIL						AVER % ERR=	1.46	ESTIMATION= OLS
NMEX	-10.98	+	.0326	NMEX	+	.8240	NMEX	+	1.3959	NMEX			R SQAR BAR=	.989	DURBIN WAT= 1.945
XFIR			(1.99)	Y*		(6.97)	XFIL		(2.47)	XCMP			AVER % ERR=	2.14	ESTIMATION= OLS
NYOR	-39521.90	+	4.5241	NYOR	+	5.1844	INTR						R SQAR BAR=	.981	DURBIN WAT= 1.989
XFIR			(1.78)	PT1		(1.64)	IY*						AVER % ERR=	1.89	ESTIMATION= C-O
NCAR	-1709.58	+	.0594	NCAR	+	.8077	NCAR	+	.2278	NCAR			R SQAR BAR=	.997	DURBIN WAT= 2.110
XFIR			(3.76)	Y*		(1.99)	PT1		(1.03)	XFIL			AVER % ERR=	1.47	ESTIMATION= OLS

ESTIMATION FOR: XFIR OUTPUT. FINANCE. INSURANCE & REAL ESTATE (60) LAG DEPENDENT VARIABLE: XFIL

NDAK	-635.78	+	2.1129	NDAK	+	.0773	INTR							R SQAR BAR=	.918	DURBIN WAT=	1.190
XFIR			(3.29)	PT1		(.95)	IY*							AVER % ERR=	3.79	ESTIMATION=	C-O
OHIO	-4898.73	+	.0612	OHIO	+	1.2270	OHIO							R SQAR BAR=	.988	DURBIN WAT=	2.342
XFIR			(2.78)	Y*		(3.12)	PT1							AVER % ERR=	1.42	ESTIMATION=	C-O
OKLA	156.71	+	.0926	OKLA	+	.2179	U.S.	+	5.4640	OKLA				R SQAR BAR=	.976	DURBIN WAT=	.822
XFIR			(2.77)	Y*		(1.95)	TIMX		(1.08)	XCMP				AVER % ERR=	2.72	ESTIMATION=	OLS
OREG	-591.14	+	.0568	OREG	+	1.0619	OREG	+	1.9293	OREG				R SQAR BAR=	.991	DURBIN WAT=	1.562
XFIR			(1.03)	Y*		(1.72)	PT1		(.99)	XCMP				AVER % ERR=	1.69	ESTIMATION=	C-O
PENN	-15205.90	+	2.5361	PENN	+	1.7898	REGL							R SQAR BAR=	.986	DURBIN WAT=	2.055
XFIR			(6.29)	PT1		(2.71)	DI*R							AVER % ERR=	1.22	ESTIMATION=	C-O
RHIS	91.60	+	.0878	RHIS	+	.7221	REGL							R SQAR BAR=	.973	DURBIN WAT=	1.622
XFIR			(1.39)	Y*		(.72)	DI*R							AVER % ERR=	2.11	ESTIMATION=	C-O
SCAR	-1214.73	+	.0375	SCAR	+	1.2107	SCAR							R SQAR BAR=	.989	DURBIN WAT=	1.388
XFIR			(1.66)	Y*		(4.25)	PT1							AVER % ERR=	2.58	ESTIMATION=	OLS
SDAK	-372.29	+	1.2003	SDAK	+	.1410	INTR							R SQAR BAR=	.949	DURBIN WAT=	1.282
XFIR			(2.29)	PT1		(2.25)	IY*							AVER % ERR=	3.35	ESTIMATION=	C-O
TENN	-21.25	+	.0489	TENN	+	.7436	TENN	+	2.4616	TENN				R SQAR BAR=	.994	DURBIN WAT=	2.417
XFIR			(2.57)	Y*		(6.20)	XFIL		(1.01)	XCMP				AVER % ERR=	1.75	ESTIMATION=	OLS
TEXA	-5558.66	+	.0585	TEXA	+	1.4421	TEXA	+	20.5085	TEXA	+	.2197	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.930
XFIR			(2.86)	Y*		(5.49)	PT1		(2.95)	XCMP		(1.03)	TIMX	AVER % ERR=	1.13	ESTIMATION=	OLS
UTAH	-15.56	+	.0480	UTAH	+	.7500	UTAH							R SQAR BAR=	.989	DURBIN WAT=	1.715
XFIR			(1.91)	Y*		(4.25)	XFIL							AVER % ERR=	2.21	ESTIMATION=	OLS
VERM	-17.73	+	.0369	VERM	+	.0956	REGL	+	.5032	VERM				R SQAR BAR=	.990	DURBIN WAT=	1.674
XFIR			(1.53)	Y*		(2.11)	DI*R		(3.34)	XFIL				AVER % ERR=	1.68	ESTIMATION=	OLS
VIRG	-4981.97	+	.0500	VIRG	+	2.6250	VIRG	+	8.1360	VIRG	+	-.6738	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.697
XFIR			(3.11)	Y*		(9.33)	PT1		(2.66)	XCMP		(5.39)	TIMX	AVER % ERR=	1.35	ESTIMATION=	OLS
WASH	-1154.41	+	.0917	WASH	+	17.0604	INTR	+	6.2435	WASH				R SQAR BAR=	.974	DURBIN WAT=	1.108
XFIR			(4.00)	Y*		(2.38)	IP		(1.84)	XCMP				AVER % ERR=	2.37	ESTIMATION=	OLS
WVIR	-167.00	+	.0244	WVIR	+	.1729	WVIR	+	.7139	WVIR				R SQAR BAR=	.992	DURBIN WAT=	1.798
XFIR			(2.79)	Y*		(1.71)	PT1		(7.72)	XFIL				AVER % ERR=	1.16	ESTIMATION=	OLS
WISC	-5036.29	+	.0679	WISC	+	17.5496	INTR	+	9.1122	WISC				R SQAR BAR=	.969	DURBIN WAT=	1.275
XFIR			(1.06)	Y*		(1.26)	IP		(1.37)	XCMP				AVER % ERR=	2.75	ESTIMATION=	C-O
WYOM	-118.73	+	1.0494	WYOM	+	.0525	INTR							R SQAR BAR=	.937	DURBIN WAT=	1.452
XFIR			(3.77)	PT1		(1.27)	IY*							AVER % ERR=	3.75	ESTIMATION=	C-O

ESTIMATION FOR: XSER OUTPUT, SERVICES (61) LAG DEPENDENT VARIABLE: XSEL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976

ALAB	-648.25	+	.0797	ALAB	+	.2573	ALAB	+	.2747	ALAB		R SQAR BAR=	.991	DURBIN WAT=	1.398
XSER			(3.91)	DPI*		(2.26)	P		(1.66)	XSEL		AVER % ERR=	1.66	ESTIMATION=	OLS
ALAS	-196.51	+	.3290	ALAS	+	1.0066	ALAS	+	-16.7516	U.S.		R SQAR BAR=	.987	DURBIN WAT=	1.903
XSER			(9.31)	DPI*		(1.62)	P		(3.36)	TIME		AVER % ERR=	5.32	ESTIMATION=	C-O
ARIS	-225.44	+	.0546	ARIS	+	151.2721	ARIS	+	.4664	ARIZ		R SQAR BAR=	.995	DURBIN WAT=	1.248
XSER			(1.57)	DPI*		(2.38)	YT5		(3.11)	XSEL		AVER % ERR=	1.92	ESTIMATION=	OLS
ARKA	-207.93	+	.0467	ARKA	+	.3112	ARKA	+	.3697	ARKA		R SQAR BAR=	.991	DURBIN WAT=	1.872
XSER			(2.45)	DPI*		(1.12)	PT1		(1.75)	XSEL		AVER % ERR=	1.67	ESTIMATION=	OLS
CALF	-4308.95	+	.0674	CALF	+	.8375	CALF	+	.2410	CALF		R SQAR BAR=	.995	DURBIN WAT=	1.499
XSER			(1.69)	DPI*		(2.08)	PT1		(1.13)	XSEL		AVER % ERR=	1.02	ESTIMATION=	OLS
COLO	-1382.02	+	.0872	COLO	+	.8967	COLO					R SQAR BAR=	.991	DURBIN WAT=	1.191
XSER			(1.83)	DPI*		(1.90)	P					AVER % ERR=	2.14	ESTIMATION=	C-O
CONN	-701.40	+	.1308	CONN	+	.5224	CONN					R SQAR BAR=	.995	DURBIN WAT=	1.557
XSER			(7.04)	DPI*		(2.20)	PT1					AVER % ERR=	1.38	ESTIMATION=	OLS
DELA	-12.26	+	.1175	DELA	+	.2673	DELA					R SQAR BAR=	.984	DURBIN WAT=	1.930
XSER			(4.73)	DPI*		(1.70)	XSEL					AVER % ERR=	2.42	ESTIMATION=	OLS
D.C.	-286.77	+	.2550	D.C.	+	.5804	D.C.					R SQAR BAR=	.985	DURBIN WAT=	1.867
XSER			(3.27)	DPI*		(4.52)	XSEL					AVER % ERR=	2.10	ESTIMATION=	OLS
FLOR	-317.50	+	.0878	FLOR	+	489.1643	FLOR	+	.2541	FLOR		R SQAR BAR=	.999	DURBIN WAT=	1.209
XSER			(3.43)	DPI*		(3.13)	YT5		(2.50)	XSEL		AVER % ERR=	.93	ESTIMATION=	OLS
GEOR	-664.82	+	.1201	GEOR	+	.3693	GEOR					R SQAR BAR=	.998	DURBIN WAT=	2.534
XSER			(6.63)	DPI*		(1.78)	PT1					AVER % ERR=	1.12	ESTIMATION=	C-O
HAWA	-348.39	+	.1190	HAWA	+	.5469	HAWA	+	.3059	HAWA		R SQAR BAR=	.996	DURBIN WAT=	1.976
XSER			(3.64)	DPI*		(2.22)	P		(1.84)	XSEL		AVER % ERR=	2.00	ESTIMATION=	OLS
IDAH	-2.80	+	.0632	IDAH	+	.5997	IDAH					R SQAR BAR=	.981	DURBIN WAT=	2.053
XSER			(3.09)	DPI*		(3.84)	XSEL					AVER % ERR=	2.50	ESTIMATION=	OLS
ILLI	-5403.48	+	.0846	ILLI	+	1.2095	ILLI					R SQAR BAR=	.991	DURBIN WAT=	1.090
XSER			(4.22)	DPI*		(3.19)	PT1					AVER % ERR=	1.17	ESTIMATION=	OLS
INDI	-1652.49	+	.0722	INDI	+	.7684	INDI					R SQAR BAR=	.993	DURBIN WAT=	1.383
XSER			(6.63)	DPI*		(5.19)	PT1					AVER % ERR=	1.41	ESTIMATION=	OLS
IOWA	-1760.30	+	.0776	IOWA	+	.7818	IOWA					R SQAR BAR=	.933	DURBIN WAT=	1.022
XSER			(4.86)	DPI*		(1.46)	P					AVER % ERR=	2.92	ESTIMATION=	OLS
KANS	-398.91	+	.0533	KANS	+	.3044	KANS	+	.5368	KANS		R SQAR BAR=	.992	DURBIN WAT=	1.671
XSER			(3.40)	DPI*		(1.61)	PT1		(3.68)	XSEL		AVER % ERR=	1.47	ESTIMATION=	OLS

ESTIMATION FOR: XSER OUTPUT, SERVICES (61) LAG DEPENDENT VARIABLE: XSEL

KENT	-1106.01	+	.1026	KENT	+	.4414	KENT				R SQAR BAR=	.994	DURBIN WAT=	1.076
XSER			(8.71)	DPI*		(2.70)	P				AVER % ERR=	1.37	ESTIMATION=	OLS
LOUS	-346.46	+	.0779	LOUS	+	.2990	LOUS	+	.2926	LOUS	R SQAR BAR=	.998	DURBIN WAT=	2.155
XSER			(5.73)	DPI*		(1.46)	PT1		(2.69)	XSEL	AVER % ERR=	.71	ESTIMATION=	OLS
MAIN	-323.62	+	.0869	MAIN	+	.5239	MAIN	+	.3520	MAIN	R SQAR BAR=	.993	DURBIN WAT=	1.692
XSER			(5.08)	DPI*		(2.85)	PT1		(2.60)	XSEL	AVER % ERR=	1.58	ESTIMATION=	OLS
MARY	-805.09	+	.1140	MARY	+	.3908	MARY	+	.2646	MARY	R SQAR BAR=	.998	DURBIN WAT=	2.006
XSER			(3.24)	DPI*		(1.05)	PT1		(2.07)	XSEL	AVER % ERR=	1.19	ESTIMATION=	OLS
MASS	-2238.84	+	.1060	MASS	+	.4357	MASS	+	.4468	MASS	R SQAR BAR=	.996	DURBIN WAT=	2.105
XSER			(2.92)	DPI*		(1.94)	P		(3.27)	XSEL	AVER % ERR=	1.18	ESTIMATION=	OLS
MICH	-3814.20	+	.0824	MICH	+	1.0625	MICH				R SQAR BAR=	.997	DURBIN WAT=	1.855
XSER			(8.81)	DPI*		(8.02)	PT1				AVER % ERR=	.84	ESTIMATION=	OLS
MINN	-848.30	+	.0393	MINN	+	.3238	MINN	+	.5849	MINN	R SQAR BAR=	.994	DURBIN WAT=	1.825
XSER			(2.57)	DPI*		(1.44)	P		(4.14)	XSEL	AVER % ERR=	1.12	ESTIMATION=	OLS
MISS	105.63	+	.0716	MISS	+	.3377	MISS				R SQAR BAR=	.990	DURBIN WAT=	1.680
XSER			(4.68)	DPI*		(2.26)	XSEL				AVER % ERR=	1.76	ESTIMATION=	OLS
MISR	-1161.02	+	.0497	MISR	+	.5074	MISR	+	.5490	MISR	R SQAR BAR=	.995	DURBIN WAT=	1.707
XSER			(3.67)	DPI*		(1.60)	PT1		(3.21)	XSEL	AVER % ERR=	.96	ESTIMATION=	OLS
MONT	-155.06	+	.0333	MONT	+	.5042	MONT	+	.5410	MONT	R SQAR BAR=	.980	DURBIN WAT=	2.246
XSER			(2.46)	DPI*		(1.88)	PT1		(3.89)	XSEL	AVER % ERR=	1.88	ESTIMATION=	OLS
NEBR	-601.23	+	.1089	NEBR	+	.4963	NEBR				R SQAR BAR=	.953	DURBIN WAT=	1.489
XSER			(6.68)	DPI*		(1.45)	P				AVER % ERR=	3.71	ESTIMATION=	OLS
NEVA	-139.95	+	.2219	NEVA	+	1.5412	NEVA				R SQAR BAR=	.994	DURBIN WAT=	1.821
XSER			(2.59)	DPI*		(3.04)	P				AVER % ERR=	1.87	ESTIMATION=	C-O
NHAM	-239.43	+	.0781	NHAM	+	.9221	NHAM				R SQAR BAR=	.994	DURBIN WAT=	1.448
XSER			(3.38)	DPI*		(4.03)	PT1				AVER % ERR=	1.60	ESTIMATION=	OLS
NJER	-5339.18	+	.0377	NJER	+	1.8780	NJER				R SQAR BAR=	.989	DURBIN WAT=	1.050
XSER			(.98)	DPI*		(3.49)	PT1				AVER % ERR=	1.90	ESTIMATION=	OLS
NMEX	-188.26	+	.0455	NMEX	+	.5986	NMEX				R SQAR BAR=	.968	DURBIN WAT=	1.313
XSER			(2.30)	DPI*		(4.36)	P				AVER % ERR=	2.32	ESTIMATION=	OLS
NYOR	-6183.72	+	.0495	NYOR	+	.5090	NYOR	+	.6040	NYOR	R SQAR BAR=	.993	DURBIN WAT=	1.808
XSER			(1.70)	DPI*		(2.50)	P		(4.87)	XSEL	AVER % ERR=	.96	ESTIMATION=	OLS
NCAR	-259.16	+	.0928	NCAR	+	.1201	NCAR	+	.1707	NCAR	R SQAR BAR=	.998	DURBIN WAT=	1.499
XSER			(6.88)	DPI*		(1.59)	P		(1.41)	XSEL	AVER % ERR=	.84	ESTIMATION=	OLS

ESTIMATION FOR: XSER OUTPUT, SERVICES (61) LAG DEPENDENT VARIABLE: XSEL

NDAK	-252.53	+	.0789	NDAK	+	.5139	NDAK				R SQAR BAR=	.737	DURBIN WAT=	.925
XSER			(6.78)	DPI*		(1.08)	P				AVER % ERR=	8.03	ESTIMATION=	OLS
OHIO	-3073.31	+	.0854	OHIO	+	.5909	OHIO	+	.2495	OHIO	R SQAR BAR=	.995	DURBIN WAT=	2.304
XSER			(5.51)	DPI*		(1.69)	PT1		(1.30)	XSEL	AVER % ERR=	1.03	ESTIMATION=	OLS
OKLA	-678.86	+	.1048	OKLA	+	.3789	OKLA				R SQAR BAR=	.980	DURBIN WAT=	1.027
XSER			(4.80)	DPI*		(1.51)	P				AVER % ERR=	2.33	ESTIMATION=	OLS
OREG	34.91	+	.1272	OREG	+	.1818	OREG				R SQAR BAR=	.997	DURBIN WAT=	1.669
XSER			(6.97)	DPI*		(1.43)	XSEL				AVER % ERR=	.99	ESTIMATION=	OLS
PENN	-6192.90	+	.1480	PENN	+	.8391	PENN				R SQAR BAR=	.991	DURBIN WAT=	1.305
XSER			(7.91)	DPI*		(2.23)	PT1				AVER % ERR=	1.56	ESTIMATION=	OLS
RHIS	-26.95	+	.0604	RHIS	+	.6861	RHIS				R SQAR BAR=	.997	DURBIN WAT=	1.719
XSER			(4.76)	DPI*		(9.59)	XSEL				AVER % ERR=	1.05	ESTIMATION=	OLS
SCAR	63.49	+	.0890	SCAR	+	.2971	SCAR				R SQAR BAR=	.990	DURBIN WAT=	1.104
XSER			(4.17)	DPI*		(1.73)	XSEL				AVER % ERR=	2.03	ESTIMATION=	OLS
SDAK	-457.74	+	.0543	SDAK	+	1.3527	SDAK				R SQAR BAR=	.878	DURBIN WAT=	.956
XSER			(4.54)	DPI*		(4.45)	PT1				AVER % ERR=	5.32	ESTIMATION=	OLS
TENN	-334.10	+	.1283	TENN	+	.1701	TENN				R SQAR BAR=	.997	DURBIN WAT=	1.067
XSER			(14.64)	DPI*		(1.66)	P				AVER % ERR=	1.14	ESTIMATION=	OLS
TEXA	-1100.21	+	.1458	TEXA	+	.2053	TEXA				R SQAR BAR=	.997	DURBIN WAT=	1.635
XSER			(8.46)	DPI*		(1.11)	PT1				AVER % ERR=	1.13	ESTIMATION=	OLS
UTAH	-235.77	+	.1248	UTAH	+	.3812	UTAH	+	-4.1926	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.199
XSER			(6.01)	DPI*		(2.09)	P		(1.54)	TIME	AVER % ERR=	1.53	ESTIMATION=	OLS
VERM	-406.68	+	.0554	VERM	+	1.3399	VERM				R SQAR BAR=	.995	DURBIN WAT=	1.370
XSER			(1.57)	DPI*		(4.06)	P				AVER % ERR=	1.48	ESTIMATION=	C-O
VIRG	-1608.78	+	.0819	VIRG	+	.8548	VIRG				R SQAR BAR=	.996	DURBIN WAT=	2.047
XSER			(3.34)	DPI*		(2.92)	PT1				AVER % ERR=	1.52	ESTIMATION=	C-O
WASH	-180.00	+	.1690	WASH							R SQAR BAR=	.996	DURBIN WAT=	1.929
XSER			(69.55)	DPI*							AVER % ERR=	1.36	ESTIMATION=	OLS
WVIR	134.03	+	.0728	WVIR	+	9.0076	U.S.				R SQAR BAR=	.994	DURBIN WAT=	2.035
XSER			(9.55)	DPI*		(8.23)	TIME				AVER % ERR=	.99	ESTIMATION=	OLS
WISC	-1394.69	+	.1231	WISC	+	.5847	WISC				R SQAR BAR=	.996	DURBIN WAT=	1.675
XSER			(8.13)	DPI*		(3.12)	PT1				AVER % ERR=	1.39	ESTIMATION=	OLS
WYOM	5.11	+	.0532	WYOM	+	.6059	WYOM				R SQAR BAR=	.949	DURBIN WAT=	1.594
XSER			(3.66)	DPI*		(4.75)	XSEL				AVER % ERR=	3.11	ESTIMATION=	OLS

ESTIMATION FOR: XGFC OUTPUT, GOVERNMENT, FEDERAL CIVILIAN (62) LAG DEPENDENT VARIABLE: XGFL

THE ESTIMATION PERIOD IS FROM 1960 TO 1976

ALAB	523.26	+	.3794	ALAB							R SQAR BAR=	.474	DURBIN WAT=	1.828
XGFC			(1.16)	XGCM							AVER % ERR=	1.76	ESTIMATION=	C-O
ALAS	89.34	+	.2682	ALAS	+	.0026	U.S.				R SQAR BAR=	.544	DURBIN WAT=	1.367
XGFC			(1.11)	XGFL		(2.68)	XGFC				AVER % ERR=	2.97	ESTIMATION=	OLS
ARIS	-128.57	+	.8348	ARIZ	+	.0057	U.S.				R SQAR BAR=	.970	DURBIN WAT=	1.165
XGFC			(6.07)	XGCM		(2.25)	XGFC				AVER % ERR=	2.26	ESTIMATION=	C-O
ARKA	-.56	+	.1954	ARKA	+	.0047	U.S.				R SQAR BAR=	.959	DURBIN WAT=	1.145
XGFC			(1.24)	XGCM		(4.19)	XGFC				AVER % ERR=	1.44	ESTIMATION=	C-O
CALF	-1320.22	+	.0203	CALF	+	.1634	U.S.	+	-28.3367	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.361
XGFC			(.30)	XGCM		(15.06)	XGFC		(4.82)	TIME	AVER % ERR=	.56	ESTIMATION=	C-O
COLO	164.64	+	.4722	COLO	+	7.0682	U.S.				R SQAR BAR=	.948	DURBIN WAT=	1.846
XGFC			(2.09)	XGFL		(2.17)	TIME				AVER % ERR=	1.98	ESTIMATION=	OLS
CONN	-67.47	+	.4417	CONN	+	.0059	U.S.				R SQAR BAR=	.968	DURBIN WAT=	1.770
XGFC			(3.85)	XGCM		(4.55)	XGFC				AVER % ERR=	2.06	ESTIMATION=	OLS
DELA	-17.64	+	.3213	DELA	+	.0017	U.S.				R SQAR BAR=	.956	DURBIN WAT=	1.051
XGFC			(1.72)	XGCM		(3.44)	XGFC				AVER % ERR=	1.69	ESTIMATION=	C-O
D.C.	724.32	+	.7932	D.C.							R SQAR BAR=	.853	DURBIN WAT=	1.363
XGFC			(9.70)	XGCM							AVER % ERR=	2.61	ESTIMATION=	OLS
FLOR	-549.86	+	.2810	FLOR	+	.0350	U.S.				R SQAR BAR=	.987	DURBIN WAT=	1.166
XGFC			(2.02)	XGCM		(6.38)	XGFC				AVER % ERR=	1.53	ESTIMATION=	C-O
GEOR	-337.90	+	.0614	GEOR	+	.0339	U.S.				R SQAR BAR=	.991	DURBIN WAT=	1.594
XGFC			(.99)	XGCM		(14.07)	XGFC				AVER % ERR=	.91	ESTIMATION=	OLS
HAWA	-149.90	+	.1389	HAWA	+	.0169	U.S.	+	-5.4631	U.S.	R SQAR BAR=	.969	DURBIN WAT=	1.750
XGFC			(1.72)	XGCM		(11.05)	XGFC		(7.50)	TIME	AVER % ERR=	1.43	ESTIMATION=	OLS
IDAH	-53.89	+	1.0323	IDAH	+	.0016	U.S.				R SQAR BAR=	.862	DURBIN WAT=	1.357
XGFC			(2.43)	XGCM		(1.00)	XGFC				AVER % ERR=	2.82	ESTIMATION=	C-O
ILLI	37.22	+	.1958	ILLI	+	.0376	U.S.	+	-13.8235	U.S.	R SQAR BAR=	.933	DURBIN WAT=	1.892
XGFC			(1.61)	XGCM		(7.14)	XGFC		(5.67)	TIME	AVER % ERR=	1.08	ESTIMATION=	OLS
INDI	-239.80	+	.3807	INDI	+	.0140	U.S.				R SQAR BAR=	.953	DURBIN WAT=	1.369
XGFC			(1.82)	XGCM		(4.27)	XGFC				AVER % ERR=	1.56	ESTIMATION=	C-O
IOWA	103.82	+	.1310	IOWA	+	.0027	U.S.				R SQAR BAR=	.918	DURBIN WAT=	1.871
XGFC			(1.02)	XGCM		(4.67)	XGFC				AVER % ERR=	1.09	ESTIMATION=	OLS
KANS	-31.64	+	.3238	KANS	+	.0064	U.S.				R SQAR BAR=	.920	DURBIN WAT=	2.323
XGFC			(1.41)	XGCM		(4.30)	XGFC				AVER % ERR=	1.33	ESTIMATION=	C-O

ESTIMATION FOR: XGFC OUTPUT, GOVERNMENT, FEDERAL CIVILIAN (62) LAG DEPENDENT VARIABLE: XGFL

KENT	-195.20	+	.0839	KENT	+	.0186	U.S.	+	-3.1436	U.S.	R SQAR BAR=	.937	DURBIN WAT=	1.156
XGFC			(.54)	XGFL		(5.52)	XGFC		(2.31)	TIME	AVER % ERR=	2.28	ESTIMATION=	OLS
LOUS	71.73	+	.6868	LOUS	+	2.2742	U.S.				R SQAR BAR=	.919	DURBIN WAT=	1.218
XGFC			(3.60)	XGFL		(1.48)	TIME				AVER % ERR=	2.47	ESTIMATION=	OLS
MAIN	-24.15	+	.2493	MAIN	+	.0066	U.S.	+	-3.3608	U.S.	R SQAR BAR=	.846	DURBIN WAT=	1.739
XGFC			(1.41)	XGFL		(3.58)	XGFC		(2.29)	TIME	AVER % ERR=	2.23	ESTIMATION=	C-O
MARY	-197.55	+	.7241	MARY	+	.0194	U.S.				R SQAR BAR=	.968	DURBIN WAT=	1.719
XGFC			(4.97)	XGFL		(1.40)	XGFC				AVER % ERR=	2.54	ESTIMATION=	OLS
MASS	303.06	+	.1573	MASS	+	.0176	U.S.	+	-11.8174	U.S.	R SQAR BAR=	.832	DURBIN WAT=	1.898
XGFC			(1.65)	XGFL		(4.64)	XGFC		(4.99)	TIME	AVER % ERR=	1.35	ESTIMATION=	OLS
MICH	-16.23	+	.0089	MICH	+	.0192	U.S.				R SQAR BAR=	.991	DURBIN WAT=	1.236
XGFC			(.14)	XGCM		(13.76)	XGFC				AVER % ERR=	.67	ESTIMATION=	OLS
MINN	172.52	+	.4171	MINN	+	2.2734	U.S.				R SQAR BAR=	.871	DURBIN WAT=	1.479
XGFC			(1.52)	XGCM		(1.27)	TIME				AVER % ERR=	1.98	ESTIMATION=	C-O
MISS	63.40	+	.4852	MISS	+	3.8402	U.S.				R SQAR BAR=	.957	DURBIN WAT=	1.624
XGFC			(1.37)	XGCM		(1.66)	TIME				AVER % ERR=	1.78	ESTIMATION=	C-O
MISR	-144.68	+	.1740	MISR	+	.0233	U.S.				R SQAR BAR=	.982	DURBIN WAT=	1.537
XGFC			(1.51)	XGCM		(6.26)	XGFC				AVER % ERR=	.96	ESTIMATION=	C-O
MONT	57.35	+	.5122	MONT	+	.7227	U.S.				R SQAR BAR=	.882	DURBIN WAT=	1.983
XGFC			(3.70)	XGFL		(1.83)	TIME				AVER % ERR=	2.22	ESTIMATION=	OLS
NEBR	111.79	+	.3866	NEBR	+	.0004	U.S.				R SQAR BAR=	.359	DURBIN WAT=	1.784
XGFC			(1.93)	XGFL		(1.01)	XGFC				AVER % ERR=	1.65	ESTIMATION=	OLS
NEVA	-36.78	+	.1826	NEVA	+	.0034	U.S.	+	.4310	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.789
XGFC			(1.81)	XGFL		(7.97)	XGFC		(2.03)	TIME	AVER % ERR=	1.13	ESTIMATION=	OLS
NHAM	-6.63	+	.4829	NHAM	+	.0012	U.S.	+	.3735	U.S.	R SQAR BAR=	.982	DURBIN WAT=	1.828
XGFC			(3.47)	XGFL		(4.75)	XGFC		(1.27)	TIME	AVER % ERR=	1.36	ESTIMATION=	OLS
NJER	207.16	+	.6512	NJER	+	5.8352	U.S.				R SQAR BAR=	.884	DURBIN WAT=	1.362
XGFC			(3.36)	XGFL		(1.42)	TIME				AVER % ERR=	2.57	ESTIMATION=	OLS
NMEX	193.10	+	.4405	NMEX							R SQAR BAR=	.725	DURBIN WAT=	1.414
XGFC			(1.79)	XGCM							AVER % ERR=	1.79	ESTIMATION=	C-O
NYOR	995.10	+	.2582	NYOR	+	.0294	U.S.	+	-16.6517	U.S.	R SQAR BAR=	.704	DURBIN WAT=	1.297
XGFC			(1.14)	XGFL		(2.90)	XGFC		(2.31)	TIME	AVER % ERR=	1.11	ESTIMATION=	C-O
NCAR	-238.82	+	.4449	NCAR	+	.0143	U.S.				R SQAR BAR=	.984	DURBIN WAT=	1.980
XGFC			(3.79)	XGCM		(5.84)	XGFC				AVER % ERR=	1.14	ESTIMATION=	C-O

ESTIMATION FOR: XGFC OUTPUT, GOVERNMENT, FEDERAL CIVILIAN (62) LAG DEPENDENT VARIABLE: XGFL

NDAK	5.35	+	.5067	NDAK	+	.0013	U.S.				R SQAR BAR=	.918	DURBIN WAT=	1.652
XGFC			(2.86)	XGFL		(2.18)	XGFC				AVER % ERR=	2.27	ESTIMATION=	OLS
OHIO	209.74	+	.1866	OHIO	+	.0325	U.S.	+	-13.8900	U.S.	R SQAR BAR=	.961	DURBIN WAT=	2.285
XGFC			(1.61)	XGCM		(6.79)	XGFC		(5.22)	TIME	AVER % ERR=	.83	ESTIMATION=	C-O
OKLA	-212.67	+	.5131	OKLA	+	.0202	U.S.	+	-9.3458	U.S.	R SQAR BAR=	.969	DURBIN WAT=	1.607
XGFC			(6.36)	XGCM		(8.84)	XGFC		(7.59)	TIME	AVER % ERR=	1.37	ESTIMATION=	OLS
OREG	17.76	+	.3278	OREG	+	.0058	U.S.				R SQAR BAR=	.958	DURBIN WAT=	1.069
XGFC			(2.47)	XGCM		(4.26)	XGFC				AVER % ERR=	1.19	ESTIMATION=	OLS
PENN	535.34	+	.4589	PENN	+	.0129	U.S.				R SQAR BAR=	.809	DURBIN WAT=	1.436
XGFC			(2.07)	XGFL		(1.47)	XGFC				AVER % ERR=	1.67	ESTIMATION=	C-O
RHIS	-56.42	+	.7633	RHIS	+	.0048	U.S.	+	-3.7443	U.S.	R SQAR BAR=	.838	DURBIN WAT=	1.705
XGFC			(6.09)	XGFL		(2.97)	XGFC		(3.78)	TIME	AVER % ERR=	3.47	ESTIMATION=	OLS
SCAR	143.62	+	.3570	SCAR	+	5.0733	U.S.				R SQAR BAR=	.834	DURBIN WAT=	1.324
XGFC			(1.12)	XGCM		(1.57)	TIME				AVER % ERR=	3.47	ESTIMATION=	C-O
SDAK	26.36	+	.4271	SDAK	+	.0012	U.S.				R SQAR BAR=	.642	DURBIN WAT=	1.809
XGFC			(1.07)	XGCM		(1.52)	XGFC				AVER % ERR=	1.93	ESTIMATION=	C-O
TENN	-79.16	+	1.1906	TENN							R SQAR BAR=	.964	DURBIN WAT=	1.279
XGFC			(20.87)	XGCM							AVER % ERR=	2.08	ESTIMATION=	OLS
TEXA	-538.89	+	.3792	TEXA	+	.0603	U.S.	+	5.3648	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.464
XGFC			(1.11)	XGCM		(13.94)	XGFC		(1.90)	TIME	AVER % ERR=	.81	ESTIMATION=	OLS
UTAH	-266.72	+	.3566	UTAH	+	.0196	U.S.	+	-6.4322	U.S.	R SQAR BAR=	.933	DURBIN WAT=	1.318
XGFC			(2.41)	XGFL		(4.57)	XGFC		(3.69)	TIME	AVER % ERR=	2.74	ESTIMATION=	OLS
VERM	19.03	+	.3559	VERM	+	.5604	U.S.				R SQAR BAR=	.942	DURBIN WAT=	1.381
XGFC			(1.39)	XGFL		(2.75)	TIME				AVER % ERR=	1.64	ESTIMATION=	OLS
VIRG	-458.08	+	.6349	VIRG	+	.0332	U.S.				R SQAR BAR=	.972	DURBIN WAT=	1.733
XGFC			(8.58)	XGFL		(4.94)	XGFC				AVER % ERR=	1.97	ESTIMATION=	OLS
WASH	345.59	+	.3400	WASH	+	7.2648	U.S.				R SQAR BAR=	.805	DURBIN WAT=	1.141
XGFC			(1.12)	XGCM		(1.30)	TIME				AVER % ERR=	2.92	ESTIMATION=	C-O
WVIR	57.02	+	.3678	WVIR	+	2.1348	U.S.				R SQAR BAR=	.961	DURBIN WAT=	1.719
XGFC			(1.42)	XGFL		(2.44)	TIME				AVER % ERR=	1.52	ESTIMATION=	OLS
WISC	-53.41	+	.3673	WISC	+	.0069	U.S.				R SQAR BAR=	.963	DURBIN WAT=	1.151
XGFC			(1.82)	XGFL		(3.71)	XGFC				AVER % ERR=	1.11	ESTIMATION=	C-O
WYOM	-4.08	+	1.0898	WYOM							R SQAR BAR=	.459	DURBIN WAT=	1.099
XGFC			(3.82)	XGFL							AVER % ERR=	5.21	ESTIMATION=	OLS

ESTIMATION FOR: XGAF OUTPUT, GOVERNMENT, ARMED FORCES (63)

THE ESTIMATION PERIOD IS FROM 1960 TO 1976

ALAB	-57.18	+	.1615	U.S.	+	.2780	U.S.	+	4.8962	U.S.			R SQAR BAR=	.879	DURBIN WAT= 1.202
XGAF			(2.39)	AFPA		(1.00)	AFPF		(.93)	TIME			AVER % ERR=	3.98	ESTIMATION= C-O
ALAS	101.07	+	.0515	U.S.	+	.1951	U.S.						R SQAR BAR=	.669	DURBIN WAT= 1.655
XGAF			(2.20)	AFPA		(3.21)	AFPF						AVER % ERR=	4.41	ESTIMATION= OLS
ARIS	-325.59	+	.0377	U.S.	+	.3921	U.S.	+	14.4222	U.S.			R SQAR BAR=	.890	DURBIN WAT= 1.703
XGAF			(.68)	AFPA		(1.72)	AFPF		(3.26)	TIME			AVER % ERR=	3.99	ESTIMATION= C-O
ARKA	64.74	+	.1187	U.S.									R SQAR BAR=	.390	DURBIN WAT= 1.648
XGAF			(2.10)	AFPF									AVER % ERR=	6.82	ESTIMATION= C-O
CALF	.00	+	.5777	U.S.	+	.7891	U.S.	+	2.3279	U.S.	+	16.1723 U.S.	R SQAR BAR=	.905	DURBIN WAT= .632
XGAF			(1.16)	AFPA		(.82)	AFPF		(1.46)	AFPX		(1.69) TIME	AVER % ERR=	2.98	ESTIMATION= OLS
COLO	-424.65	+	.1447	U.S.	+	.4823	U.S.	+	20.5645	U.S.			R SQAR BAR=	.910	DURBIN WAT= .964
XGAF			(2.04)	AFPA		(1.69)	AFPF		(5.14)	TIME			AVER % ERR=	5.11	ESTIMATION= OLS
CONN	132.54	+	.0752	U.S.									R SQAR BAR=	.247	DURBIN WAT= 1.060
XGAF			(2.63)	AFPN									AVER % ERR=	3.54	ESTIMATION= OLS
DELA	-27.64	+	.1479	U.S.									R SQAR BAR=	.827	DURBIN WAT= 1.287
XGAF			(9.34)	AFPF									AVER % ERR=	5.44	ESTIMATION= OLS
D.C.	461.10	+	.0416	U.S.	+	-7.0728	U.S.						R SQAR BAR=	.671	DURBIN WAT= 1.107
XGAF			(2.35)	AFP		(5.05)	TIME						AVER % ERR=	5.15	ESTIMATION= OLS
FLOR	95.82	+	.4867	U.S.	+	.4830	U.S.	+	10.1999	U.S.			R SQAR BAR=	.823	DURBIN WAT= 1.292
XGAF			(1.12)	AFPF		(1.96)	AFPX		(1.89)	TIME			AVER % ERR=	2.66	ESTIMATION= OLS
GEOR	-481.59	+	.6141	U.S.	+	.9520	U.S.						R SQAR BAR=	.916	DURBIN WAT= 1.046
XGAF			(7.68)	AFPA		(4.59)	AFPF						AVER % ERR=	5.74	ESTIMATION= OLS
HAWA	451.80	+	.0147	U.S.									R SQAR BAR=	.024	DURBIN WAT= 1.207
XGAF			(1.20)	AFP									AVER % ERR=	3.75	ESTIMATION= OLS
IDAH			E X O G E N O U S												
ILLI	348.05	+	.0188	U.S.	+	-.3839	U.S.	+	.8708	U.S.	+	-9.5466 U.S.	R SQAR BAR=	.905	DURBIN WAT= 1.523
XGAF			(.17)	AFPA		(1.19)	AFPF		(2.79)	AFPX		(2.38) TIME	AVER % ERR=	3.22	ESTIMATION= OLS
INDI	179.32	+	.0180	U.S.									R SQAR BAR=	.019	DURBIN WAT= 1.348
XGAF			(1.16)	AFPA									AVER % ERR=	6.43	ESTIMATION= OLS
IOWA	83.51	+	.0044	U.S.	+	-1.5030	U.S.						R SQAR BAR=	.939	DURBIN WAT= 1.777
XGAF			(2.22)	AFP		(7.70)	TIME						AVER % ERR=	2.46	ESTIMATION= C-O
KANS	270.15	+	.1088	U.S.									R SQAR BAR=	.606	DURBIN WAT= 1.513
XGAF			(1.84)	AFPA									AVER % ERR=	6.44	ESTIMATION= C-O

ESTIMATION FOR: XGAF OUTPUT, GOVERNMENT, ARMED FORCES (63)

KENT	230.63	+	.2739	U.S.								R SQAR BAR=	.823	DURBIN WAT=	1.044
XGAF			(9.20)	AFPA								AVER % ERR=	4.55	ESTIMATION=	OLS
LOUS	103.79	+	.2079	U.S.	+	.0927	U.S.					R SQAR BAR=	.761	DURBIN WAT=	1.176
XGAF			(5.46)	AFPA		(.94)	AFPF					AVER % ERR=	6.26	ESTIMATION=	OLS
MAIN	49.74	+	.1271	U.S.								R SQAR BAR=	.934	DURBIN WAT=	1.435
XGAF			(2.04)	AFPF								AVER % ERR=	4.13	ESTIMATION=	C-O
MARY	80.82	+	.2178	U.S.								R SQAR BAR=	.853	DURBIN WAT=	1.561
XGAF			(5.52)	AFP								AVER % ERR=	4.86	ESTIMATION=	C-O
MASS	505.08	+	.1053	U.S.	+	.1681	U.S.	+	.0626	U.S.	+ -17.9504 U.S.	R SQAR BAR=	.961	DURBIN WAT=	1.077
XGAF			(1.34)	AFPA		(.51)	AFPF		(.15)	AFPN	(5.37) TIME	AVER % ERR=	3.90	ESTIMATION=	OLS
MICH	40.31	+	.3501	U.S.								R SQAR BAR=	.929	DURBIN WAT=	1.621
XGAF			(7.97)	AFPF								AVER % ERR=	1.80	ESTIMATION=	C-O
MINN	6.31	+	.1396	U.S.								R SQAR BAR=	.923	DURBIN WAT=	1.979
XGAF			(6.41)	AFPF								AVER % ERR=	2.74	ESTIMATION=	C-O
MISS	-27.37	+	.1295	U.S.	+	.1972	U.S.	+	2.7104	U.S.		R SQAR BAR=	.612	DURBIN WAT=	1.399
XGAF			(.51)	AFPF		(1.36)	AFPX		(.85)	TIME		AVER % ERR=	6.00	ESTIMATION=	OLS
MISR	105.68	+	.1606	U.S.	+	.1614	U.S.					R SQAR BAR=	.773	DURBIN WAT=	1.071
XGAF			(4.92)	AFPA		(1.91)	AFPF					AVER % ERR=	5.70	ESTIMATION=	OLS
MONT	.90	+	.1226	U.S.								R SQAR BAR=	.808	DURBIN WAT=	1.795
XGAF			(3.43)	AFPF								AVER % ERR=	5.62	ESTIMATION=	C-O
NEBR	84.50	+	.1424	U.S.								R SQAR BAR=	.800	DURBIN WAT=	1.009
XGAF			(2.77)	AFPF								AVER % ERR=	3.94	ESTIMATION=	C-O
NEVA	82.29	+	.0238	U.S.								R SQAR BAR=	.765	DURBIN WAT=	1.089
XGAF			(.60)	AFPF								AVER % ERR=	4.25	ESTIMATION=	C-O
NHAM	18.66	+	.0743	U.S.								R SQAR BAR=	.206	DURBIN WAT=	.311
XGAF			(2.38)	AFPF								AVER % ERR=	13.53	ESTIMATION=	OLS
NJER	183.19	+	.2187	U.S.	+	-9.9614	U.S.					R SQAR BAR=	.931	DURBIN WAT=	1.044
XGAF			(5.75)	AFP		(1.70)	TIME					AVER % ERR=	4.44	ESTIMATION=	C-O
NMEX	110.02	+	.1324	U.S.								R SQAR BAR=	.803	DURBIN WAT=	1.549
XGAF			(2.50)	AFPF								AVER % ERR=	4.08	ESTIMATION=	C-O
NYOR	990.35	+	.0470	U.S.	+	-21.7609	U.S.					R SQAR BAR=	.976	DURBIN WAT=	1.689
XGAF			(4.26)	AFP		(25.02)	TIME					AVER % ERR=	2.22	ESTIMATION=	OLS
NCAR	-119.43	+	.2791	U.S.	+	.0830	U.S.	+	.6811	U.S.	+ 19.0760 U.S.	R SQAR BAR=	.948	DURBIN WAT=	1.304
XGAF			(2.57)	AFPA		(.18)	AFPF		(1.15)	AFPN	(4.13) TIME	AVER % ERR=	2.26	ESTIMATION=	OLS

ESTIMATION FOR: XGAF OUTPUT, GOVERNMENT, ARMED FORCES (63)

NDAK	79.13	+	.1019	U.S.								R SQAR BAR=	.974	DURBIN WAT=	1.909
XGAF			(2.97)	AFPF								AVER % ERR=	3.34	ESTIMATION=	C-O
OHIO	15.22	+	.4987	U.S.								R SQAR BAR=	.862	DURBIN WAT=	1.105
XGAF			(4.23)	AFPF								AVER % ERR=	3.95	ESTIMATION=	C-O
OKLA	68.51	+	.2131	U.S.	+	.1875	U.S.					R SQAR BAR=	.945	DURBIN WAT=	1.729
XGAF			(11.27)	AFPA		(3.82)	AFPF					AVER % ERR=	2.40	ESTIMATION=	OLS
OREG	38.50	+	.0612	U.S.								R SQAR BAR=	.894	DURBIN WAT=	1.603
XGAF			(1.61)	AFPN								AVER % ERR=	4.15	ESTIMATION=	C-O
PENN	145.89	+	.0524	U.S.	+	.2034	U.S.					R SQAR BAR=	.918	DURBIN WAT=	1.605
XGAF			(1.00)	AFPA		(1.67)	AFPX					AVER % ERR=	2.68	ESTIMATION=	C-O
RHIS	-253.09	+	.7094	U.S.								R SQAR BAR=	.886	DURBIN WAT=	1.408
XGAF			(4.33)	AFPN								AVER % ERR=	7.57	ESTIMATION=	C-O
SCAR	3.20	+	.1761	U.S.	+	11.4134	U.S.					R SQAR BAR=	.834	DURBIN WAT=	1.101
XGAF			(8.23)	AFP		(6.76)	TIME					AVER % ERR=	4.31	ESTIMATION=	OLS
SDAK	64.40	+	.0218	U.S.								R SQAR BAR=	.364	DURBIN WAT=	1.133
XGAF			(.89)	AFPF								AVER % ERR=	5.07	ESTIMATION=	C-O
TENN	-61.85	+	.4906	U.S.								R SQAR BAR=	.959	DURBIN WAT=	2.400
XGAF			(8.46)	AFPN								AVER % ERR=	2.70	ESTIMATION=	C-O
TEXA	38.35	+	.4020	U.S.	+	1.5727	U.S.	+	.3664	U.S.	+ 14.4630 U.S.	R SQAR BAR=	.829	DURBIN WAT=	1.213
XGAF			(1.23)	AFPA		(1.13)	AFPF		(.20)	AFPN	(1.04) TIME	AVER % ERR=	3.48	ESTIMATION=	OLS
UTAH	38.06	+	.0511	U.S.								R SQAR BAR=	.733	DURBIN WAT=	1.933
XGAF			(2.33)	AFPF								AVER % ERR=	4.25	ESTIMATION=	C-O
VERM	15.01	+	.0028	U.S.								R SQAR BAR=	.910	DURBIN WAT=	2.315
XGAF			(.40)	AFPF								AVER % ERR=	5.24	ESTIMATION=	C-O
VIRG	-1509.22	+	.1173	U.S.	+	.6551	U.S.	+	2.7338	U.S.	+ 37.8103 U.S.	R SQAR BAR=	.892	DURBIN WAT=	1.383
XGAF			(.39)	AFPA		(.51)	AFPF		(1.66)	AFPN	(2.95) TIME	AVER % ERR=	3.95	ESTIMATION=	OLS
WASH	124.48	+	.1976	U.S.								R SQAR BAR=	.762	DURBIN WAT=	1.020
XGAF			(7.65)	AFP								AVER % ERR=	5.88	ESTIMATION=	OLS
WVIR			E X O G E N O U S												
WISC	208.07	+	-.0042	U.S.	+	-4.1959	U.S.					R SQAR BAR=	.977	DURBIN WAT=	1.497
XGAF			(2.16)	AFP		(27.29)	TIME					AVER % ERR=	2.20	ESTIMATION=	OLS
WYOM	40.49	+	.0150	U.S.								R SQAR BAR=	.810	DURBIN WAT=	1.739
XGAF			(.50)	AFPF								AVER % ERR=	4.15	ESTIMATION=	C-O

ESTIMATION FOR: XGLS OUTPUT, GOVERNMENT, STATE & LOCAL (64)

THE ESTIMATION PERIOD IS FROM 1959 TO 1976

ALAB	-42.22	+	.5654	ALAB	R SQAR BAR=	.978	DURBIN WAT=	1.395
XGLS			(27.45)	GE*	AVER % ERR=	2.40	ESTIMATION=	OLS
ALAS	21.97	+	.4316	ALAS	R SQAR BAR=	.981	DURBIN WAT=	1.472
XGLS			(29.52)	GE*	AVER % ERR=	4.62	ESTIMATION=	OLS
ARIS	-84.85	+	.7164	ARIS	R SQAR BAR=	.983	DURBIN WAT=	1.079
XGLS			(31.32)	GE*	AVER % ERR=	2.94	ESTIMATION=	OLS
ARKA	-4.40	+	.5117	ARKA	R SQAR BAR=	.939	DURBIN WAT=	1.073
XGLS			(16.24)	GE*	AVER % ERR=	3.87	ESTIMATION=	OLS
CALF	-120.91	+	.6214	CALF	R SQAR BAR=	.985	DURBIN WAT=	1.909
XGLS			(33.81)	GE*	AVER % ERR=	2.10	ESTIMATION=	OLS
COLO	-93.16	+	.6565	COLO	R SQAR BAR=	.968	DURBIN WAT=	.755
XGLS			(22.70)	GE*	AVER % ERR=	3.69	ESTIMATION=	OLS
CONN	27.85	+	.5360	CONN	R SQAR BAR=	.959	DURBIN WAT=	.915
XGLS			(20.00)	GE*	AVER % ERR=	3.27	ESTIMATION=	OLS
DELA	-4.90	+	.5082	DELA	R SQAR BAR=	.940	DURBIN WAT=	.964
XGLS			(16.42)	GE*	AVER % ERR=	4.99	ESTIMATION=	OLS
D.C.	49.96	+	.5294	D.C.	R SQAR BAR=	.975	DURBIN WAT=	1.474
XGLS			(12.02)	GE*	AVER % ERR=	3.41	ESTIMATION=	C-O
FLOR	-260.83	+	.7202	FLOR	R SQAR BAR=	.970	DURBIN WAT=	.984
XGLS			(23.36)	GE*	AVER % ERR=	4.85	ESTIMATION=	OLS
GEOR	-213.81	+	.6320	GEOR	R SQAR BAR=	.989	DURBIN WAT=	1.615
XGLS			(39.85)	GE*	AVER % ERR=	2.50	ESTIMATION=	OLS
HAWA	85.03	+	.3568	HAWA	R SQAR BAR=	.977	DURBIN WAT=	1.221
XGLS			(8.86)	GE*	AVER % ERR=	3.12	ESTIMATION=	C-O
IDAH	14.15	+	.5256	IDAH	R SQAR BAR=	.982	DURBIN WAT=	1.215
XGLS			(30.64)	GE*	AVER % ERR=	2.11	ESTIMATION=	OLS
ILLI	802.23	+	.5014	ILLI	R SQAR BAR=	.983	DURBIN WAT=	2.820
XGLS			(15.50)	GE*	AVER % ERR=	1.68	ESTIMATION=	C-O
INDI	982.41	+	.2918	INDI	R SQAR BAR=	.973	DURBIN WAT=	1.582
XGLS			(3.66)	GE*	AVER % ERR=	1.69	ESTIMATION=	C-O
IOWA	-141.61	+	.6241	IOWA	R SQAR BAR=	.908	DURBIN WAT=	1.011
XGLS			(12.97)	GE*	AVER % ERR=	3.98	ESTIMATION=	OLS
KANS	456.28	+	.3145	KANS	R SQAR BAR=	.969	DURBIN WAT=	1.795
XGLS			(5.44)	GE*	AVER % ERR=	1.64	ESTIMATION=	C-O

ESTIMATION FOR: XGLS OUTPUT, GOVERNMENT, STATE & LOCAL (64)

KENT	-46.45	+	.5292	KENT	R SQAR BAR=	.963	DURBIN WAT=	1.137
XGLS			(20.99)	GE*	AVER % ERR=	3.30	ESTIMATION=	OLS
LOUS	-93.14	+	.5488	LOUS	R SQAR BAR=	.903	DURBIN WAT=	1.195
XGLS			(12.59)	GE*	AVER % ERR=	3.86	ESTIMATION=	OLS
MAIN	131.18	+	.3385	MAIN	R SQAR BAR=	.934	DURBIN WAT=	1.661
XGLS			(5.64)	GE*	AVER % ERR=	3.18	ESTIMATION=	C-O
MARY	322.33	+	.4617	MARY	R SQAR BAR=	.991	DURBIN WAT=	1.806
XGLS			(14.88)	GE*	AVER % ERR=	1.97	ESTIMATION=	C-O
MASS	747.92	+	.3670	MASS	R SQAR BAR=	.982	DURBIN WAT=	2.203
XGLS			(12.25)	GE*	AVER % ERR=	1.75	ESTIMATION=	C-O
MICH	975.02	+	.4679	MICH	R SQAR BAR=	.989	DURBIN WAT=	1.578
XGLS			(10.49)	GE*	AVER % ERR=	1.83	ESTIMATION=	C-O
MINN	258.57	+	.4621	MINN	R SQAR BAR=	.986	DURBIN WAT=	1.629
XGLS			(16.29)	GE*	AVER % ERR=	1.69	ESTIMATION=	C-O
MISS	-71.87	+	.5429	MISS	R SQAR BAR=	.936	DURBIN WAT=	.998
XGLS			(15.77)	GE*	AVER % ERR=	4.19	ESTIMATION=	OLS
MISR	-357.89	+	.7005	MISR	R SQAR BAR=	.969	DURBIN WAT=	1.728
XGLS			(23.07)	GE*	AVER % ERR=	3.06	ESTIMATION=	OLS
MONT	-13.67	+	.5793	MONT	R SQAR BAR=	.930	DURBIN WAT=	1.360
XGLS			(15.01)	GE*	AVER % ERR=	3.16	ESTIMATION=	OLS
NEBR	100.81	+	.5802	NEBR	R SQAR BAR=	.953	DURBIN WAT=	1.871
XGLS			(18.58)	GE*	AVER % ERR=	2.86	ESTIMATION=	OLS
NEVA	-38.01	+	.6275	NEVA	R SQAR BAR=	.953	DURBIN WAT=	.495
XGLS			(18.53)	GE*	AVER % ERR=	5.85	ESTIMATION=	OLS
NHAM	95.49	+	.3664	NHAM	R SQAR BAR=	.961	DURBIN WAT=	1.339
XGLS			(4.94)	GE*	AVER % ERR=	3.36	ESTIMATION=	C-O
NJER	332.20	+	.5328	NJER	R SQAR BAR=	.987	DURBIN WAT=	.900
XGLS			(36.54)	GE*	AVER % ERR=	2.10	ESTIMATION=	OLS
NMEX	-52.63	+	.7071	NMEX	R SQAR BAR=	.955	DURBIN WAT=	.888
XGLS			(19.06)	GE*	AVER % ERR=	2.87	ESTIMATION=	OLS
NYOR	3742.26	+	.3542	NYOR	R SQAR BAR=	.988	DURBIN WAT=	2.204
XGLS			(9.32)	GE*	AVER % ERR=	1.67	ESTIMATION=	C-O
NCAR	695.62	+	.3804	NCAR	R SQAR BAR=	.977	DURBIN WAT=	1.175
XGLS			(6.38)	GE*	AVER % ERR=	2.40	ESTIMATION=	C-O

ESTIMATION FOR: XGLS OUTPUT, GOVERNMENT, STATE & LOCAL (64)

NDAK	-32.47	+	.5484	NDAK	R SQAR BAR=	.634	DURBIN WAT=	.552
XGLS			(5.52)	GE*	AVER % ERR=	6.12	ESTIMATION=	OLS
OHIO	202.24	+	.5600	OHIO	R SQAR BAR=	.886	DURBIN WAT=	.576
XGLS			(11.56)	GE*	AVER % ERR=	4.09	ESTIMATION=	OLS
OKLA	-182.48	+	.6441	OKLA	R SQAR BAR=	.953	DURBIN WAT=	1.242
XGLS			(18.51)	GE*	AVER % ERR=	2.94	ESTIMATION=	OLS
OREG	80.67	+	.5542	OREG	R SQAR BAR=	.959	DURBIN WAT=	.772
XGLS			(19.56)	GE*	AVER % ERR=	3.46	ESTIMATION=	OLS
PENN	1145.19	+	.3974	PENN	R SQAR BAR=	.980	DURBIN WAT=	1.459
XGLS			(7.91)	GE*	AVER % ERR=	2.25	ESTIMATION=	C-O
RHIS	63.21	+	.4376	RHIS	R SQAR BAR=	.975	DURBIN WAT=	.953
XGLS			(7.90)	GE*	AVER % ERR=	2.54	ESTIMATION=	C-O
SCAR	229.72	+	.4148	SCAR	R SQAR BAR=	.994	DURBIN WAT=	1.098
XGLS			(11.86)	GE*	AVER % ERR=	1.66	ESTIMATION=	C-O
SDAK	-26.99	+	.5617	SDAK	R SQAR BAR=	.825	DURBIN WAT=	.631
XGLS			(9.00)	GE*	AVER % ERR=	4.73	ESTIMATION=	OLS
TENN	130.80	+	.5549	TENN	R SQAR BAR=	.957	DURBIN WAT=	1.006
XGLS			(19.36)	GE*	AVER % ERR=	3.50	ESTIMATION=	OLS
TEXA	-194.28	+	.6444	TEXA	R SQAR BAR=	.981	DURBIN WAT=	1.075
XGLS			(29.37)	GE*	AVER % ERR=	2.24	ESTIMATION=	OLS
UTAH	95.22	+	.4413	UTAH	R SQAR BAR=	.980	DURBIN WAT=	1.165
XGLS			(9.13)	GE*	AVER % ERR=	2.13	ESTIMATION=	C-O
VERM	-3.03	+	.4674	VERM	R SQAR BAR=	.978	DURBIN WAT=	1.797
XGLS			(27.21)	GE*	AVER % ERR=	2.81	ESTIMATION=	OLS
VIRG	62.23	+	.5898	VIRG	R SQAR BAR=	.985	DURBIN WAT=	1.484
XGLS			(12.54)	GE*	AVER % ERR=	2.68	ESTIMATION=	C-O
WASH	127.01	+	.6233	WASH	R SQAR BAR=	.960	DURBIN WAT=	1.683
XGLS			(20.33)	GE*	AVER % ERR=	3.18	ESTIMATION=	OLS
WVIR	178.44	+	.3705	WVIR	R SQAR BAR=	.954	DURBIN WAT=	.890
XGLS			(18.72)	GE*	AVER % ERR=	2.70	ESTIMATION=	OLS
WISC	-103.54	+	.5754	WISC	R SQAR BAR=	.974	DURBIN WAT=	.933
XGLS			(25.32)	GE*	AVER % ERR=	2.60	ESTIMATION=	OLS
WYOM	10.66	+	.4619	WYOM	R SQAR BAR=	.763	DURBIN WAT=	.762
XGLS			(7.47)	GE*	AVER % ERR=	5.87	ESTIMATION=	OLS

ESTIMATION FOR: YTRP INCOME, TRANSFER PAYMENTS (65) LAG DEPENDENT VARIABLE: YTRL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1957 TO 1976 IN STATES: ALAS

ALAB	-925.16	+	.2414	ALAB	+	17.4613	ALAB	+	-20.6433	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.069
YTRP			(5.50)	PT7		(7.23)	PT0		(6.38)	TIME	AVER % ERR=	2.52	ESTIMATION=	OLS
ALAS	-29.05	+	2.4613	ALAS	+	5.0823	ALAS	+	-2.3635	U.S.	R SQAR BAR=	.936	DURBIN WAT=	2.514
YTRP			(2.16)	PT7		(.44)	PT0		(.84)	TIME	AVER % ERR=	12.72	ESTIMATION=	OLS
ARIS	-85.20	+	.3549	ARIZ	+	3.8718	ARIZ	+	.2216	ARIZ	R SQAR BAR=	.996	DURBIN WAT=	2.235
YTRP			(3.40)	PT7		(1.56)	PT0		(1.26)	YTRL	AVER % ERR=	3.38	ESTIMATION=	OLS
ARKA	-487.99	+	.1095	ARKA	+	14.5581	ARKA	+	.2553	ARKA	R SQAR BAR=	.998	DURBIN WAT=	1.092
YTRP			(1.96)	PT7		(4.95)	PT0		(1.88)	YTRL	AVER % ERR=	2.92	ESTIMATION=	OLS
CALF	-2325.33	+	.2692	CALF	+	7.9529	CALF	+	.3994	CALF	R SQAR BAR=	.996	DURBIN WAT=	1.436
YTRP			(2.01)	PT7		(2.66)	PT0		(1.81)	YTRL	AVER % ERR=	3.57	ESTIMATION=	OLS
COLO	.00	+	.5733	COLO	+	4.4587	COLO	+	-15.2555	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.824
YTRP			(20.90)	PT7		(3.33)	PT0		(4.05)	TIME	AVER % ERR=	3.96	ESTIMATION=	OLS
CONN	-847.54	+	.1776	CONN	+	25.6229	CONN	+	-41.7809	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.572
YTRP			(2.92)	PT7		(7.76)	PT0		(7.37)	TIME	AVER % ERR=	2.98	ESTIMATION=	OLS
DELA	.00	+	.6574	DELA	+	4.4888	DELA	+	-5.0651	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.457
YTRP			(21.75)	PT7		(2.40)	PT0		(3.30)	TIME	AVER % ERR=	5.84	ESTIMATION=	OLS
D.C.	-666.00	+	.6237	D.C.	+	46.8489	D.C.	+	-7.0880	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.031
YTRP			(2.93)	PT7		(3.63)	PT0		(2.07)	TIME	AVER % ERR=	4.33	ESTIMATION=	OLS
FLOR	-993.18	+	.2262	FLOR	+	18.7220	FLOR	+	-66.4714	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.835
YTRP			(6.05)	PT7		(5.99)	PT0		(5.71)	TIME	AVER % ERR=	2.58	ESTIMATION=	OLS
GEOR	-1253.06	+	.1677	GEOR	+	21.9792	GEOR	+	-50.4972	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.293
YTRP			(3.88)	PT7		(11.66)	PT0		(13.10)	TIME	AVER % ERR=	1.96	ESTIMATION=	OLS
HAWA	-118.19	+	.4924	HAWA	+	13.6315	HAWA	+	-6.4282	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.768
YTRP			(3.80)	PT7		(3.25)	PT0		(4.32)	TIME	AVER % ERR=	2.68	ESTIMATION=	OLS
IDAH	-163.84	+	.1030	IDAH	+	14.1506	IDAH	+	.1162	IDAH	R SQAR BAR=	.999	DURBIN WAT=	2.154
YTRP			(2.02)	PT7		(7.01)	PT0		(1.09)	YTRL	AVER % ERR=	1.62	ESTIMATION=	C-O
ILLI	-3351.71	+	.2426	ILLI	+	21.8904	ILLI	+	-97.7002	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.433
YTRP			(4.23)	PT7		(7.70)	PT0		(7.53)	TIME	AVER % ERR=	2.45	ESTIMATION=	OLS
INDI	-1301.80	+	.1598	INDI	+	18.7302	INDI	+	-32.0117	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.897
YTRP			(4.47)	PT7		(10.68)	PT0		(8.51)	TIME	AVER % ERR=	1.85	ESTIMATION=	OLS
IOWA	-1103.69	+	.0540	IOWA	+	23.1351	IOWA				R SQAR BAR=	.999	DURBIN WAT=	2.342
YTRP			(2.04)	PT7		(13.86)	PT0				AVER % ERR=	1.34	ESTIMATION=	OLS
KANS	-885.57	+	.0769	KANS	+	22.7137	KANS				R SQAR BAR=	.998	DURBIN WAT=	1.327
YTRP			(1.84)	PT7		(8.50)	PT0				AVER % ERR=	2.42	ESTIMATION=	OLS

ESTIMATION FOR: YTRP INCOME, TRANSFER PAYMENTS (65) LAG DEPENDENT VARIABLE: YTRL

KENT	-1036.44	+	.1679	KENT	+	20.7664	KENT	+	-15.6738	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.275
YTRP			(3.08)	PT7		(7.79)	PTO		(5.02)	TIME	AVER % ERR=	2.14	ESTIMATION=	OLS
LOUS	-669.95	+	.2385	LOUS	+	14.4945	LOUS	+	-18.1303	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.966
YTRP			(4.90)	PT7		(5.99)	PTO		(4.90)	TIME	AVER % ERR=	2.09	ESTIMATION=	OLS
MAIN	-428.52	+	.1212	MAIN	+	25.6368	MAIN	+	-3.7717	U.S.	R SQAR BAR=	.998	DURBIN WAT=	.778
YTRP			(2.06)	PT7		(8.84)	PTO		(3.13)	TIME	AVER % ERR=	2.48	ESTIMATION=	OLS
MARY	-868.01	+	.2737	MARY	+	22.5100	MARY	+	-56.9697	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.602
YTRP			(6.09)	PT7		(11.04)	PTO		(12.24)	TIME	AVER % ERR=	1.89	ESTIMATION=	OLS
MASS	-2550.63	+	.1293	MASS	+	33.1680	MASS	+	-70.3339	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.342
YTRP			(1.68)	PT7		(8.07)	PTO		(7.94)	TIME	AVER % ERR=	2.58	ESTIMATION=	OLS
MICH	-2285.83	+	.3038	MICH	+	20.5594	MICH	+	-98.1058	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.159
YTRP			(5.56)	PT7		(9.79)	PTO		(10.77)	TIME	AVER % ERR=	2.17	ESTIMATION=	OLS
MINN	-1040.35	+	.1455	MINN	+	19.7658	MINN	+	-16.4057	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.765
YTRP			(3.07)	PT7		(8.18)	PTO		(5.14)	TIME	AVER % ERR=	2.11	ESTIMATION=	OLS
MISS	-784.74	+	.1654	MISS	+	18.2151	MISS	+	-2.5346	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.071
YTRP			(3.81)	PT7		(7.89)	PTO		(.72)	TIME	AVER % ERR=	2.09	ESTIMATION=	C-O
MISR	-1547.26	+	.1293	MISR	+	23.4947	MISR	+	-27.5657	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.166
YTRP			(3.05)	PT7		(8.97)	PTO		(6.12)	TIME	AVER % ERR=	2.01	ESTIMATION=	OLS
MONT	.00	+	.4956	MONT	+	1.5156	MONT	+	-1.2231	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.522
YTRP			(31.30)	PT7		(1.98)	PTO		(1.27)	TIME	AVER % ERR=	3.72	ESTIMATION=	OLS
NEBR	.00	+	.4057	NEBR	+	.9955	NEBR	+	-3.1567	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.527
YTRP			(24.79)	PT7		(.97)	PTO		(1.17)	TIME	AVER % ERR=	5.05	ESTIMATION=	OLS
NEVA	-7.73	+	.4821	NEVA	+	11.5381	NEVA	+	-6.1932	U.S.	R SQAR BAR=	.996	DURBIN WAT=	2.082
YTRP			(5.25)	PT7		(3.15)	PTO		(3.37)	TIME	AVER % ERR=	4.27	ESTIMATION=	OLS
NHAM	-145.54	+	.1652	NHAM	+	18.9810	NHAM	+	-5.6736	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.300
YTRP			(3.72)	PT7		(9.24)	PTO		(8.76)	TIME	AVER % ERR=	1.88	ESTIMATION=	OLS
NJER	-2468.00	+	.1668	NJER	+	29.1866	NJER	+	-108.1710	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.944
YTRP			(2.28)	PT7		(7.23)	PTO		(8.25)	TIME	AVER % ERR=	2.18	ESTIMATION=	OLS
NMEX	-77.63	+	.5181	NMEX	+	4.5014	NMEX				R SQAR BAR=	.996	DURBIN WAT=	1.229
YTRP			(6.83)	PT7		(1.71)	PTO				AVER % ERR=	3.58	ESTIMATION=	OLS
NYOR	-8599.80	+	.1888	NYOR	+	28.9776	NYOR	+	-99.1472	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.063
YTRP			(1.94)	PT7		(5.32)	PTO		(2.91)	TIME	AVER % ERR=	3.35	ESTIMATION=	OLS
NCAR	-1654.60	+	.0862	NCAR	+	22.5736	NCAR	+	-43.0370	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.358
YTRP			(2.10)	PT7		(12.10)	PTO		(10.97)	TIME	AVER % ERR=	2.25	ESTIMATION=	OLS

ESTIMATION FOR: YTRP INCOME, TRANSFER PAYMENTS (65) LAG DEPENDENT VARIABLE: YTRL

NDAK	.00	+	.4207	NDAK	+	.4856	NDAK				R SQAR BAR=	.995	DURBIN WAT=	1.507
YTRP			(39.58)	PT7		(1.78)	PT0				AVER % ERR=	3.98	ESTIMATION=	OLS
OHIO	-2837.58	+	.2050	OHIO	+	19.5019	OHIO	+	-71.2245	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.417
YTRP			(5.77)	PT7		(10.85)	PT0		(8.83)	TIME	AVER % ERR=	1.83	ESTIMATION=	OLS
OKLA	-953.44	+	.0499	OKLA	+	25.5399	OKLA	+	-9.4303	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.264
YTRP			(1.26)	PT7		(10.71)	PT0		(4.56)	TIME	AVER % ERR=	1.93	ESTIMATION=	OLS
OREG	-618.60	+	.0957	OREG	+	24.1666	OREG	+	-14.5173	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.012
YTRP			(2.49)	PT7		(12.77)	PT0		(9.28)	TIME	AVER % ERR=	1.71	ESTIMATION=	OLS
PENN	-3944.05	+	.2840	PENN	+	20.7638	PENN	+	-63.9978	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.907
YTRP			(4.58)	PT7		(6.15)	PT0		(4.71)	TIME	AVER % ERR=	2.07	ESTIMATION=	OLS
RHIS	-467.45	+	.1965	RHIS	+	35.1667	RHIS	+	-14.0070	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.312
YTRP			(2.48)	PT7		(7.23)	PT0		(3.47)	TIME	AVER % ERR=	3.31	ESTIMATION=	C-O
SCAR	-805.75	+	.1462	SCAR	+	20.6143	SCAR	+	-20.5912	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.833
YTRP			(3.55)	PT7		(12.60)	PT0		(12.01)	TIME	AVER % ERR=	1.99	ESTIMATION=	OLS
SDAK	-226.54	+	.1253	SDAK	+	18.3229	SDAK				R SQAR BAR=	.997	DURBIN WAT=	1.591
YTRP			(2.29)	PT7		(5.03)	PT0				AVER % ERR=	2.59	ESTIMATION=	C-O
TENN	-1324.26	+	.1124	TENN	+	22.2099	TENN	+	-24.5164	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.124
YTRP			(2.58)	PT7		(9.92)	PT0		(7.82)	TIME	AVER % ERR=	2.22	ESTIMATION=	OLS
TEXA	-2612.66	+	.1431	TEXA	+	17.6054	TEXA	+	-57.4573	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.346
YTRP			(2.96)	PT7		(7.69)	PT0		(5.90)	TIME	AVER % ERR=	2.35	ESTIMATION=	OLS
UTAH	-117.82	+	.3107	UTAH	+	9.9641	UTAH	+	-3.9462	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.440
YTRP			(3.40)	PT7		(3.13)	PT0		(2.80)	TIME	AVER % ERR=	3.50	ESTIMATION=	OLS
VERM	-139.18	+	.1102	VERM	+	24.1807	VERM	+	-2.8558	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.771
YTRP			(2.50)	PT7		(11.83)	PT0		(8.25)	TIME	AVER % ERR=	1.67	ESTIMATION=	OLS
VIRG	-1087.16	+	.3100	VIRG	+	17.7386	VIRG	+	-42.0224	U.S.	R SQAR BAR=	.999	DURBIN WAT=	2.525
YTRP			(6.64)	PT7		(6.44)	PT0		(9.76)	TIME	AVER % ERR=	2.02	ESTIMATION=	OLS
WASH	-728.91	+	.2898	WASH	+	19.0702	WASH	+	-27.7490	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.921
YTRP			(6.12)	PT7		(8.60)	PT0		(6.52)	TIME	AVER % ERR=	2.24	ESTIMATION=	OLS
WVIR	.00	+	.5895	WVIR	+	2.0842	WVIR	+	-7.9974	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.908
YTRP			(36.80)	PT7		(2.95)	PT0		(3.06)	TIME	AVER % ERR=	3.05	ESTIMATION=	OLS
WISC	-1134.67	+	.1636	WISC	+	16.9740	WISC	+	-23.4760	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.900
YTRP			(3.71)	PT7		(8.28)	PT0		(6.18)	TIME	AVER % ERR=	1.90	ESTIMATION=	OLS
WYOM	-16.27	+	.1568	WYOM	+	2.9893	WYOM	+	.6178	WYOM	R SQAR BAR=	.997	DURBIN WAT=	1.892
YTRP			(1.63)	PT7		(1.37)	PT0		(2.23)	YTRL	AVER % ERR=	2.92	ESTIMATION=	OLS

ESTIMATION FOR: YPCI INCOME, PERSONAL CONTRIBUTIONS FOR SOCIAL INSURANCE (66) LAG DEPENDENT VARIABLE: YPCL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976

ALAB	-57.56	+	.0671	ALAB	+	-.0307	ALAB	+	8.5389	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.345
YPCI			(9.03)	ET2		(3.18)	YT6		(2.85)	TIME	AVER % ERR=	2.21	ESTIMATION=	C-0
ALAS	4.47	+	.1605	ALAS	+	-.0364	ALAS	+	-.9808	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.374
YPCI			(27.08)	ET2		(16.87)	YT6		(3.31)	TIME	AVER % ERR=	4.23	ESTIMATION=	OLS
ARIS	-50.70	+	.0728	ARIZ	+	-.0281	ARIZ	+	5.2011	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.372
YPCI			(10.50)	ET2		(3.76)	YT6		(2.72)	TIME	AVER % ERR=	2.63	ESTIMATION=	C-0
ARKA	-12.58	+	.0686	ARKA	+	-.0280	ARKA	+	2.5460	U.S.	R SQAR BAR=	.999	DURBIN WAT=	1.619
YPCI			(11.52)	ET2		(2.94)	YT6		(2.29)	TIME	AVER % ERR=	2.10	ESTIMATION=	C-0
CALF	429.23	+	.0943	CALF	+	-.0244	CALF				R SQAR BAR=	.993	DURBIN WAT=	1.539
YPCI			(16.20)	ET2		(2.85)	YT6				AVER % ERR=	3.85	ESTIMATION=	C-0
COLO	-55.60	+	.0602	COLO	+	-.0184	COLO	+	7.9319	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.807
YPCI			(11.65)	ET2		(2.95)	YT6		(4.82)	TIME	AVER % ERR=	2.22	ESTIMATION=	C-0
CONN	40.81	+	.0809	CONN	+	-.0361	CONN				R SQAR BAR=	.984	DURBIN WAT=	1.382
YPCI			(11.43)	ET2		(3.58)	YT6				AVER % ERR=	5.91	ESTIMATION=	C-0
DELA	.04	+	.0950	DELA	+	-.0131	DELA				R SQAR BAR=	.996	DURBIN WAT=	1.830
YPCI			(52.93)	ET2		(3.01)	YT6				AVER % ERR=	3.44	ESTIMATION=	OLS
D.C.	33.92	+	.1494	D.C.	+	-.0139	D.C.				R SQAR BAR=	.994	DURBIN WAT=	1.563
YPCI			(15.23)	ET2		(5.19)	YT6				AVER % ERR=	2.93	ESTIMATION=	C-0
FLOR	-2.35	+	.0841	FLOR	+	-.0694	FLOR	+	7.8769	U.S.	R SQAR BAR=	.989	DURBIN WAT=	1.243
YPCI			(9.76)	ET2		(5.26)	YT6		(1.36)	TIME	AVER % ERR=	5.80	ESTIMATION=	OLS
GEOR	52.36	+	.0979	GEOR	+	-.0691	GEOR				R SQAR BAR=	.995	DURBIN WAT=	1.205
YPCI			(29.39)	ET2		(8.41)	YT6				AVER % ERR=	3.65	ESTIMATION=	OLS
HAWA	4.19	+	.0450	HAWA	+	-.0236	HAWA	+	.6444	HAWA	R SQAR BAR=	.996	DURBIN WAT=	1.723
YPCI			(2.03)	ET2		(2.72)	YT6		(2.75)	YPCL	AVER % ERR=	3.50	ESTIMATION=	OLS
IDAH	11.14	+	.0752	IDAH	+	-.0331	IDAH				R SQAR BAR=	.975	DURBIN WAT=	.763
YPCI			(9.49)	ET2		(1.71)	YT6				AVER % ERR=	8.67	ESTIMATION=	OLS
ILLI	61.56	+	.0379	ILLI	+	-.0103	ILLI	+	.6284	ILLI	R SQAR BAR=	.993	DURBIN WAT=	1.249
YPCI			(2.86)	ET2		(1.30)	YT6		(4.13)	YPCL	AVER % ERR=	3.92	ESTIMATION=	OLS
INDI	102.59	+	.0714	INDI	+	-.0195	INDI				R SQAR BAR=	.995	DURBIN WAT=	.875
YPCI			(16.08)	ET2		(2.95)	YT6				AVER % ERR=	3.49	ESTIMATION=	C-0
IOWA	16.92	+	.0499	IOWA	+	-.0182	IOWA	+	.4185	IOWA	R SQAR BAR=	.996	DURBIN WAT=	1.930
YPCI			(5.95)	ET2		(3.03)	YT6		(3.41)	YPCL	AVER % ERR=	3.11	ESTIMATION=	OLS
KANS	24.70	+	.0700	KANS	+	-.0294	KANS	+	.1355	KANS	R SQAR BAR=	.996	DURBIN WAT=	2.214
YPCI			(9.43)	ET2		(4.17)	YT6		(1.31)	YPCL	AVER % ERR=	3.16	ESTIMATION=	OLS

ESTIMATION FOR: YPCI INCOME, PERSONAL CONTRIBUTIONS FOR SOCIAL INSURANCE (66) LAG DEPENDENT VARIABLE: YPCL

KENT	-83.24	+	.0521	KENT	+	-.0213	KENT	+	10.8373	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.446
YPCI			(6.79)	ET2		(2.27)	YT6		(3.41)	TIME	AVER % ERR=	2.45	ESTIMATION=	C-O
LOUS	-93.76	+	.0522	LOUS	+	-.0148	LOUS	+	11.9380	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.255
YPCI			(6.87)	ET2		(1.61)	YT6		(3.72)	TIME	AVER % ERR=	2.38	ESTIMATION=	C-O
MAIN	26.47	+	.0643	MAIN	+	-.0178	MAIN				R SQAR BAR=	.996	DURBIN WAT=	1.291
YPCI			(12.28)	ET2		(1.84)	YT6				AVER % ERR=	3.44	ESTIMATION=	C-O
MARY	-159.40	+	.0557	MARY	+	-.0174	MARY	+	19.6109	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.490
YPCI			(6.91)	ET2		(2.32)	YT6		(3.87)	TIME	AVER % ERR=	2.11	ESTIMATION=	C-O
MASS	46.82	+	.0458	MASS	+	-.0230	MASS	+	.4935	MASS	R SQAR BAR=	.987	DURBIN WAT=	1.280
YPCI			(2.79)	ET2		(2.02)	YT6		(2.49)	YPCL	AVER % ERR=	5.26	ESTIMATION=	OLS
MICH	40.91	+	.0874	MICH	+	-.0225	MICH				R SQAR BAR=	.997	DURBIN WAT=	1.222
YPCI			(27.25)	ET2		(4.91)	YT6				AVER % ERR=	2.99	ESTIMATION=	C-O
MINN	35.03	+	.0775	MINN	+	-.0254	MINN	+	.1215	MINN	R SQAR BAR=	.999	DURBIN WAT=	1.584
YPCI			(14.73)	ET2		(5.64)	YT6		(1.79)	YPCL	AVER % ERR=	1.76	ESTIMATION=	C-O
MISS	-25.97	+	.0646	MISS	+	-.0346	MISS	+	3.9639	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.359
YPCI			(5.60)	ET2		(1.93)	YT6		(1.85)	TIME	AVER % ERR=	3.84	ESTIMATION=	C-O
MISR	22.99	+	.0265	MISR	+	-.0138	MISR	+	.7465	MISR	R SQAR BAR=	.994	DURBIN WAT=	1.290
YPCI			(2.15)	ET2		(1.67)	YT6		(4.76)	YPCL	AVER % ERR=	3.63	ESTIMATION=	OLS
MONT	5.87	+	.0558	MONT	+	-.0230	MONT	+	.4116	MONT	R SQAR BAR=	.996	DURBIN WAT=	1.583
YPCI			(5.83)	ET2		(3.50)	YT6		(3.15)	YPCL	AVER % ERR=	2.74	ESTIMATION=	OLS
NEBR	9.57	+	.0504	NEBR	+	-.0242	NEBR	+	.4574	NEBR	R SQAR BAR=	.997	DURBIN WAT=	1.900
YPCI			(6.23)	ET2		(4.37)	YT6		(4.02)	YPCL	AVER % ERR=	2.56	ESTIMATION=	OLS
NEVA	-.38	+	.0356	NEVA	+	-.0139	NEVA	+	.6953	NEVA	R SQAR BAR=	.996	DURBIN WAT=	1.827
YPCI			(2.46)	ET2		(2.29)	YT6		(3.81)	YPCL	AVER % ERR=	3.26	ESTIMATION=	OLS
NHAM	-2.02	+	.0716	NHAM	+	-.0445	NHAM	+	1.4655	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.026
YPCI			(5.87)	ET2		(2.36)	YT6		(2.17)	TIME	AVER % ERR=	4.74	ESTIMATION=	OLS
NJER	60.43	+	.0952	NJER	+	-.0258	NJER				R SQAR BAR=	.997	DURBIN WAT=	1.325
YPCI			(25.84)	ET2		(4.44)	YT6				AVER % ERR=	2.58	ESTIMATION=	C-O
NMEX	2.96	+	.0562	NMEX	+	-.0271	NMEX	+	.4446	NMEX	R SQAR BAR=	.996	DURBIN WAT=	1.425
YPCI			(3.79)	ET2		(2.64)	YT6		(2.42)	YPCL	AVER % ERR=	3.32	ESTIMATION=	OLS
NYOR	-227.06	+	.0722	NYOR	+	-.0119	NYOR	+	51.2160	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.445
YPCI			(5.81)	ET2		(1.95)	YT6		(1.49)	TIME	AVER % ERR=	2.42	ESTIMATION=	C-O
NCAR	-85.86	+	.0701	NCAR	+	-.0421	NCAR	+	13.1959	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.127
YPCI			(7.51)	ET2		(3.32)	YT6		(2.42)	TIME	AVER % ERR=	2.60	ESTIMATION=	C-O

ESTIMATION FOR: YPCI INCOME, PERSONAL CONTRIBUTIONS FOR SOCIAL INSURANCE (66) LAG DEPENDENT VARIABLE: YPCL

NDAK	2.16	+	.0520	NDAK	+	-.0074	NDAK	+	.3783	NDAK	R SQAR BAR=	.996	DURBIN WAT=	2.470
YPCI			(6.97)	ET2		(2.14)	YT6		(3.09)	YPCL	AVER % ERR=	3.33	ESTIMATION=	OLS
OHIO	47.48	+	.0378	OHIO	+	-.0159	OHIO	+	.6225	OHIO	R SQAR BAR=	.990	DURBIN WAT=	1.281
YPCI			(2.61)	ET2		(1.68)	YT6		(3.72)	YPCL	AVER % ERR=	4.64	ESTIMATION=	OLS
OKLA	18.33	+	.0655	OKLA	+	-.0267	OKLA	+	.2673	OKLA	R SQAR BAR=	.998	DURBIN WAT=	2.011
YPCI			(9.41)	ET2		(3.96)	YT6		(3.01)	YPCL	AVER % ERR=	2.19	ESTIMATION=	OLS
OREG	-84.44	+	.0661	OREG	+	-.0196	OREG	+	8.7429	U.S.	R SQAR BAR=	.997	DURBIN WAT=	1.550
YPCI			(7.89)	ET2		(2.25)	YT6		(3.00)	TIME	AVER % ERR=	2.52	ESTIMATION=	C-O
PENN	65.09	+	.0544	PENN	+	-.0200	PENN	+	.4570	PENN	R SQAR BAR=	.988	DURBIN WAT=	1.517
YPCI			(2.80)	ET2		(1.62)	YT6		(2.13)	YPCL	AVER % ERR=	4.84	ESTIMATION=	OLS
RHIS	9.06	+	.0362	RHIS	+	-.0203	RHIS	+	.6822	RHIS	R SQAR BAR=	.990	DURBIN WAT=	1.835
YPCI			(1.78)	ET2		(1.19)	YT6		(3.29)	YPCL	AVER % ERR=	4.45	ESTIMATION=	OLS
SCAR	31.32	+	.0664	SCAR	+	-.0565	SCAR	+	.4025	SCAR	R SQAR BAR=	.997	DURBIN WAT=	1.274
YPCI			(7.06)	ET2		(5.17)	YT6		(3.92)	YPCL	AVER % ERR=	2.99	ESTIMATION=	OLS
SDAK	.74	+	.0419	SDAK	+	-.0041	SDAK	+	.4731	SDAK	R SQAR BAR=	.997	DURBIN WAT=	1.833
YPCI			(9.26)	ET2		(.71)	YT6		(5.86)	YPCL	AVER % ERR=	2.95	ESTIMATION=	OLS
TENN	-78.19	+	.0688	TENN	+	-.0322	TENN	+	10.6585	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.392
YPCI			(9.30)	ET2		(3.38)	YT6		(2.88)	TIME	AVER % ERR=	2.20	ESTIMATION=	C-O
TEXA	-283.63	+	.0597	TEXA	+	-.0184	TEXA	+	36.6482	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.068
YPCI			(9.68)	ET2		(2.55)	YT6		(3.22)	TIME	AVER % ERR=	2.27	ESTIMATION=	C-O
UTAH	-25.78	+	.0652	UTAH	+	-.0206	UTAH	+	3.7615	U.S.	R SQAR BAR=	.996	DURBIN WAT=	1.535
YPCI			(7.93)	ET2		(1.95)	YT6		(3.63)	TIME	AVER % ERR=	3.18	ESTIMATION=	C-O
VERM	2.59	+	.0401	VERM	+	-.0363	VERM	+	.6698	VERM	R SQAR BAR=	.995	DURBIN WAT=	1.306
YPCI			(2.92)	ET2		(3.21)	YT6		(4.15)	YPCL	AVER % ERR=	3.59	ESTIMATION=	OLS
VIRG	-103.53	+	.0640	VIRG	+	-.0257	VIRG	+	15.0346	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.141
YPCI			(9.03)	ET2		(3.04)	YT6		(3.48)	TIME	AVER % ERR=	2.03	ESTIMATION=	C-O
WASH	17.52	+	.0840	WASH	+	-.0208	WASH	+	.1387	WASH	R SQAR BAR=	.998	DURBIN WAT=	1.419
YPCI			(11.00)	ET2		(4.58)	YT6		(1.59)	YPCL	AVER % ERR=	2.25	ESTIMATION=	OLS
WVIR	-17.39	+	.0795	WVIR	+	-.0262	WVIR	+	2.4721	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.114
YPCI			(11.13)	ET2		(3.75)	YT6		(1.56)	TIME	AVER % ERR=	2.50	ESTIMATION=	C-O
WISC	-136.93	+	.0577	WISC	+	-.0151	WISC	+	17.6321	U.S.	R SQAR BAR=	.998	DURBIN WAT=	1.769
YPCI			(8.00)	ET2		(1.94)	YT6		(4.20)	TIME	AVER % ERR=	2.10	ESTIMATION=	C-O
WYOM	-.82	+	.0639	WYOM	+	-.0137	WYOM	+	.4044	WYOM	R SQAR BAR=	.999	DURBIN WAT=	1.979
YPCI			(9.34)	ET2		(2.03)	YT6		(6.24)	YPCL	AVER % ERR=	1.64	ESTIMATION=	C-O

ESTIMATION FOR: YDIR INCOME, DIVIDENDS, INTEREST & RENT (67)

THE ESTIMATION PERIOD IS FROM 1956 TO 1976 EXCEPT FOR 1957 TO 1976 IN STATES: ALAS

ALAB	61.03	+	3.9583	ALAB	+	.1577	ALAB	+	22.5855	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.169
YDIR			(25.02)	QT1		(7.52)	XF		(8.47)	TIME	AVER % ERR=	2.22	ESTIMATION=	OLS
ALAS	3.98	+	1.9700	ALAS	+	1.9039	U.S.				R SQAR BAR=	.964	DURBIN WAT=	1.248
YDIR			(12.08)	QT1		(2.49)	TIME				AVER % ERR=	11.48	ESTIMATION=	OLS
ARIS	14.63	+	6.0881	ARIZ	+	.1574	ARIZ	+	14.0701	U.S.	R SQAR BAR=	.976	DURBIN WAT=	.837
YDIR			(9.62)	QT1		(2.25)	XF		(1.78)	TIME	AVER % ERR=	7.47	ESTIMATION=	OLS
ARKA	-10.47	+	4.4705	ARKA	+	.1019	ARKA	+	17.3938	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.128
YDIR			(13.98)	QT1		(2.49)	XF		(5.35)	TIME	AVER % ERR=	4.39	ESTIMATION=	OLS
CALF	1115.78	+	4.3876	CALF	+	.2048	CALF	+	261.9781	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.045
YDIR			(17.21)	QT1		(5.81)	XF		(7.71)	TIME	AVER % ERR=	2.53	ESTIMATION=	OLS
COLO	102.22	+	4.8802	COLO	+	.2739	COLO	+	18.9032	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.751
YDIR			(17.38)	QT1		(5.76)	XF		(4.02)	TIME	AVER % ERR=	3.82	ESTIMATION=	OLS
CONN	166.49	+	5.3480	CONN	+	.1359	CONN	+	58.1517	U.S.	R SQAR BAR=	.987	DURBIN WAT=	1.702
YDIR			(6.83)	QT1		(1.55)	XF		(4.19)	TIME	AVER % ERR=	3.50	ESTIMATION=	OLS
DELA	178.80	+	3.9340	DELA	+	.1361	DELA	+	2.7356	U.S.	R SQAR BAR=	.973	DURBIN WAT=	1.325
YDIR			(7.67)	QT1		(2.98)	XF		(1.05)	TIME	AVER % ERR=	4.34	ESTIMATION=	OLS
D.C.	165.27	+	1.3955	D.C.	+	.0666	D.C.	+	14.6602	U.S.	R SQAR BAR=	.966	DURBIN WAT=	.988
YDIR			(4.18)	QT1		(1.59)	XF		(4.59)	TIME	AVER % ERR=	4.67	ESTIMATION=	OLS
FLOR	96.79	+	9.9588	FLOR	+	.4480	FLOR	+	35.1044	U.S.	R SQAR BAR=	.988	DURBIN WAT=	1.010
YDIR			(13.67)	QT1		(5.11)	XF		(1.14)	TIME	AVER % ERR=	6.05	ESTIMATION=	OLS
GEOR	150.21	+	4.7829	GEOR	+	.1677	GEOR	+	18.9370	U.S.	R SQAR BAR=	.995	DURBIN WAT=	1.505
YDIR			(17.32)	QT1		(6.01)	XF		(2.50)	TIME	AVER % ERR=	2.92	ESTIMATION=	OLS
HAWA	-17.25	+	4.0043	HAWA	+	13.7550	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.499
YDIR			(9.94)	QT1		(5.79)	TIME				AVER % ERR=	5.20	ESTIMATION=	OLS
IDAH	35.56	+	3.7576	IDAH	+	.0580	IDAH	+	7.0196	U.S.	R SQAR BAR=	.980	DURBIN WAT=	1.365
YDIR			(10.84)	QT1		(1.61)	XF		(4.41)	TIME	AVER % ERR=	4.99	ESTIMATION=	OLS
ILLI	493.85	+	3.5610	ILLI	+	.1763	ILLI	+	194.3031	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.009
YDIR			(13.67)	QT1		(5.60)	XF		(9.99)	TIME	AVER % ERR=	2.31	ESTIMATION=	OLS
INDI	158.30	+	3.8183	INDI	+	.0814	INDI	+	57.1509	U.S.	R SQAR BAR=	.994	DURBIN WAT=	2.137
YDIR			(13.94)	QT1		(4.10)	XF		(7.10)	TIME	AVER % ERR=	2.89	ESTIMATION=	OLS
IOWA	168.52	+	6.0079	IOWA	+	.1347	IOWA	+	31.1847	U.S.	R SQAR BAR=	.981	DURBIN WAT=	1.851
YDIR			(10.24)	QT1		(2.18)	XF		(3.30)	TIME	AVER % ERR=	5.05	ESTIMATION=	OLS
KANS	173.17	+	4.4034	KANS	+	.1701	KANS	+	32.4689	U.S.	R SQAR BAR=	.991	DURBIN WAT=	1.523
YDIR			(13.32)	QT1		(3.20)	XF		(7.16)	TIME	AVER % ERR=	3.26	ESTIMATION=	OLS

ESTIMATION FOR: YDIR INCOME, DIVIDENDS, INTEREST & RENT (67)

KENT	133.59	+	3.6330	KENT	+	.1503	KENT	+	19.7228	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.440
YDIR			(17.66)	QT1		(5.36)	XF		(5.01)	TIME	AVER % ERR=	2.93	ESTIMATION=	OLS
LOUS	42.45	+	2.8095	LOUS	+	.1109	LOUS	+	48.8179	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.898
YDIR			(15.23)	QT1		(4.19)	XF		(11.72)	TIME	AVER % ERR=	2.76	ESTIMATION=	OLS
MAIN	52.75	+	4.3465	MAIN	+	.1715	MAIN	+	9.9452	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.875
YDIR			(12.41)	QT1		(4.80)	XF		(5.93)	TIME	AVER % ERR=	3.55	ESTIMATION=	OLS
MARY	240.51	+	4.9432	MARY	+	.2991	MARY	+	26.5714	U.S.	R SQAR BAR=	.995	DURBIN WAT=	2.090
YDIR			(14.73)	QT1		(6.09)	XF		(3.49)	TIME	AVER % ERR=	2.81	ESTIMATION=	OLS
MASS	194.07	+	4.2072	MASS	+	.2320	MASS	+	93.4199	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.608
YDIR			(6.91)	QT1		(3.32)	XF		(5.19)	TIME	AVER % ERR=	3.56	ESTIMATION=	OLS
MICH	427.47	+	3.6471	MICH	+	.0532	MICH	+	110.5620	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.542
YDIR			(10.80)	QT1		(3.42)	XF		(6.25)	TIME	AVER % ERR=	3.16	ESTIMATION=	OLS
MINN	160.97	+	3.9587	MINN	+	.0664	MINN	+	49.3280	U.S.	R SQAR BAR=	.986	DURBIN WAT=	1.538
YDIR			(8.42)	QT1		(1.15)	XF		(4.54)	TIME	AVER % ERR=	3.41	ESTIMATION=	OLS
MISS	31.30	+	3.8804	MISS	+	.1189	MISS	+	14.3254	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.571
YDIR			(13.66)	QT1		(4.15)	XF		(5.19)	TIME	AVER % ERR=	3.75	ESTIMATION=	OLS
MISR	343.80	+	3.6951	MISR	+	.1295	MISR	+	56.3007	U.S.	R SQAR BAR=	.993	DURBIN WAT=	1.855
YDIR			(11.39)	QT1		(3.90)	XF		(6.44)	TIME	AVER % ERR=	2.74	ESTIMATION=	OLS
MONT	47.30	+	4.9587	MONT	+	8.3289	U.S.				R SQAR BAR=	.983	DURBIN WAT=	1.666
YDIR			(11.21)	QT1		(5.17)	TIME				AVER % ERR=	3.46	ESTIMATION=	OLS
NEBR	36.18	+	4.3783	NEBR	+	30.2986	U.S.				R SQAR BAR=	.985	DURBIN WAT=	1.591
YDIR			(9.37)	QT1		(7.33)	TIME				AVER % ERR=	4.30	ESTIMATION=	OLS
NEVA	-68.11	+	4.1358	NEVA	+	.0875	NEVA	+	10.4688	U.S.	R SQAR BAR=	.981	DURBIN WAT=	.955
YDIR			(4.65)	QT1		(1.88)	XF		(1.96)	TIME	AVER % ERR=	6.19	ESTIMATION=	C-O
NHAM	38.05	+	6.1245	NHAM	+	.2011	NHAM	+	6.5949	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.375
YDIR			(17.01)	QT1		(5.43)	XF		(4.61)	TIME	AVER % ERR=	2.86	ESTIMATION=	OLS
NJER	364.80	+	5.1393	NJER	+	.2281	NJER	+	81.8643	U.S.	R SQAR BAR=	.994	DURBIN WAT=	2.059
YDIR			(11.86)	QT1		(4.57)	XF		(4.42)	TIME	AVER % ERR=	2.93	ESTIMATION=	OLS
NMEX	-30.30	+	3.4162	NMEX	+	.1910	NMEX	+	13.4284	U.S.	R SQAR BAR=	.979	DURBIN WAT=	1.145
YDIR			(7.71)	QT1		(2.44)	XF		(5.37)	TIME	AVER % ERR=	6.25	ESTIMATION=	OLS
NYOR	1149.85	+	4.5644	NYOR	+	.2406	NYOR	+	316.6998	U.S.	R SQAR BAR=	.990	DURBIN WAT=	1.623
YDIR			(7.18)	QT1		(3.27)	XF		(4.66)	TIME	AVER % ERR=	3.29	ESTIMATION=	OLS
NCAR	132.29	+	4.2064	NCAR	+	.1178	NCAR	+	28.2853	U.S.	R SQAR BAR=	.994	DURBIN WAT=	1.242
YDIR			(15.19)	QT1		(4.39)	XF		(3.44)	TIME	AVER % ERR=	3.41	ESTIMATION=	OLS

ESTIMATION FOR: YDIR INCOME, DIVIDENDS, INTEREST & RENT (67)

NDAK	-10.81	+	3.1497	NDAK	+	12.1924	U.S.					R SQAR BAR=	.971	DURBIN WAT=	1.147
YDIR			(6.48)	QT1		(6.87)	TIME					AVER % ERR=	5.00	ESTIMATION=	OLS
OHIO	890.41	+	3.4805	OHIO	+	.1081	OHIO	+	116.9998	U.S.		R SQAR BAR=	.990	DURBIN WAT=	1.733
YDIR			(9.79)	QT1		(3.90)	XF		(5.17)	TIME		AVER % ERR=	3.27	ESTIMATION=	OLS
OKLA	102.33	+	4.1566	OKLA	+	.2015	OKLA	+	30.7474	U.S.		R SQAR BAR=	.994	DURBIN WAT=	1.967
YDIR			(15.23)	QT1		(3.20)	XF		(7.11)	TIME		AVER % ERR=	2.80	ESTIMATION=	OLS
OREG	143.06	+	4.9234	OREG	+	.1337	OREG	+	17.8776	U.S.		R SQAR BAR=	.995	DURBIN WAT=	1.959
YDIR			(20.46)	QT1		(5.19)	XF		(5.22)	TIME		AVER % ERR=	2.89	ESTIMATION=	OLS
PENN	1309.51	+	4.5338	PENN	+	.2168	PENN	+	89.6075	U.S.		R SQAR BAR=	.993	DURBIN WAT=	2.220
YDIR			(12.82)	QT1		(5.40)	XF		(3.91)	TIME		AVER % ERR=	2.50	ESTIMATION=	OLS
RHIS	95.11	+	5.6817	RHIS	+	.2099	RHIS	+	6.5288	U.S.		R SQAR BAR=	.981	DURBIN WAT=	1.204
YDIR			(7.52)	QT1		(3.46)	XF		(1.92)	TIME		AVER % ERR=	4.68	ESTIMATION=	OLS
SCAR	123.34	+	4.9366	SCAR	+	.1589	SCAR	+	3.9043	U.S.		R SQAR BAR=	.992	DURBIN WAT=	1.714
YDIR			(16.87)	QT1		(5.45)	XF		(.98)	TIME		AVER % ERR=	4.43	ESTIMATION=	OLS
SDAK	6.23	+	4.3724	SDAK	+	10.9358	U.S.					R SQAR BAR=	.966	DURBIN WAT=	1.140
YDIR			(5.93)	QT1		(4.93)	TIME					AVER % ERR=	5.62	ESTIMATION=	OLS
TENN	167.51	+	4.5063	TENN	+	.1801	TENN	+	19.1810	U.S.		R SQAR BAR=	.995	DURBIN WAT=	1.999
YDIR			(19.21)	QT1		(6.89)	XF		(3.65)	TIME		AVER % ERR=	2.84	ESTIMATION=	OLS
TEXA	307.95	+	4.3357	TEXA	+	.2053	TEXA	+	130.9050	U.S.		R SQAR BAR=	.994	DURBIN WAT=	1.678
YDIR			(18.84)	QT1		(4.54)	XF		(6.80)	TIME		AVER % ERR=	3.23	ESTIMATION=	OLS
UTAH	42.00	+	4.4673	UTAH	+	.1743	UTAH	+	8.5302	U.S.		R SQAR BAR=	.989	DURBIN WAT=	1.237
YDIR			(14.82)	QT1		(3.87)	XF		(4.48)	TIME		AVER % ERR=	4.16	ESTIMATION=	OLS
VERM	-3.46	+	5.0187	VERM	+	.1217	VERM	+	[illegible].9094	U.S.		R SQAR BAR=	.964	DURBIN WAT=	1.203
YDIR			(5.58)	QT1		(1.39)	XF		([illegible].08)	TIME		AVER % ERR=	6.91	ESTIMATION=	OLS
VIRG	196.34	+	4.9960	VIRG	+	.2678	VIRG	+	23.9064	U.S.		R SQAR BAR=	.994	DURBIN WAT=	2.079
YDIR			(15.42)	QT1		(5.57)	XF		(2.61)	TIME		AVER % ERR=	3.14	ESTIMATION=	OLS
WASH	134.68	+	4.2396	WASH	+	.0792	WASH	+	43.2138	U.S.		R SQAR BAR=	.987	DURBIN WAT=	1.603
YDIR			(11.33)	QT1		(1.81)	XF		(5.20)	TIME		AVER % ERR=	4.02	ESTIMATION=	OLS
WVIR	116.74	+	3.6329	WVIR	+	.0889	WVIR	+	10.1132	U.S.		R SQAR BAR=	.970	DURBIN WAT=	1.207
YDIR			(8.64)	QT1		(1.69)	XF		(2.76)	TIME		AVER % ERR=	5.52	ESTIMATION=	OLS
WISC	345.63	+	5.4421	WISC	+	.1817	WISC	+	36.0122	U.S.		R SQAR BAR=	.993	DURBIN WAT=	1.935
YDIR			(16.42)	QT1		(4.93)	XF		(4.26)	TIME		AVER % ERR=	3.15	ESTIMATION=	OLS
WYOM	21.12	+	4.4770	WYOM	+	.0654	WYOM	+	4.4642	U.S.		R SQAR BAR=	.980	DURBIN WAT=	.986
YDIR			(10.72)	QT1		(1.07)	XF		(4.21)	TIME		AVER % ERR=	6.06	ESTIMATION=	OLS

ESTIMATION FOR: YRES INCOME, RESIDENCE ADJUSTMENT (68) LAG DEPENDENT VARIABLE: YREL

THE ESTIMATION PERIOD IS FROM 1956 TO 1976

ALAB	-282.64	+	.0179	REGL	+	.9265	REGL	+	1.0467	ALAB			R SQAR BAR=	.994	DURBIN WAT= 2.258
YRES			(2.82)	DIER		(1.13)	ET4		(23.26)	YREL			AVER % ERR=	2.87	ESTIMATION= OLS
ALAS			E X O G E N O U S												
ARIS			E X O G E N O U S												
ARKA			E X O G E N O U S												
CALF			E X O G E N O U S												
COLO			E X O G E N O U S												
CONN	-429.58	+	.0404	REGL	+	.6615	CONN	+	13.3276	U.S.			R SQAR BAR=	.997	DURBIN WAT= 1.337
YRES			(3.59)	DIER		(5.42)	YREL		(3.09)	TIME			AVER % ERR=	1.64	ESTIMATION= C-O
DELA	-245.88	+	.0077	REGL	+	1.9176	REGL	+	.9829	DELA	+	-.9902 U.S.	R SQAR BAR=	.907	DURBIN WAT= 1.649
YRES			(1.25)	DIER		(2.16)	ET4		(5.56)	YREL		(2.18) TIME	AVER % ERR=	-5.24	ESTIMATION= OLS
D.C.	-2659.59	+	.2198	REGL	+	8.2918	REGL	+	.9617	D.C.	+	-19.3267 U.S.	R SQAR BAR=	.999	DURBIN WAT= 2.165
YRES			(2.89)	DIER		(1.67)	ET4		(13.02)	YREL		(1.76) TIME	AVER % ERR=	-1.29	ESTIMATION= OLS
FLOR	-102.70	+	.0073	REGL	+	.3255	REGL	+	.3668	FLOR	+	-.1836 U.S.	R SQAR BAR=	.851	DURBIN WAT= 1.918
YRES			(2.79)	DIER		(1.40)	ET4		(1.75)	YREL		(1.28) TIME	AVER % ERR=	-6.93	ESTIMATION= OLS
GEOR	-176.93	+	.0203	REGL	+	.9093	GEOR	+	-2.0613	U.S.			R SQAR BAR=	.991	DURBIN WAT= 1.553
YRES			(2.44)	DIER		(10.84)	YREL		(4.20)	TIME			AVER % ERR=	-8.50	ESTIMATION= OLS
HAWA			E X O G E N O U S												
IDAH			E X O G E N O U S												
ILLI			E X O G E N O U S												
INDI			E X O G E N O U S												
IOWA	-108.34	+	.0031	REGL	+	7.6776	U.S.						R SQAR BAR=	.988	DURBIN WAT= 2.092
YRES			(1.21)	DIER		(12.12)	TIME						AVER % ERR=	4.46	ESTIMATION= C-O
KANS	-544.85	+	.0273	REGL	+	2.7453	REGL	+	1.0975	KANS			R SQAR BAR=	.995	DURBIN WAT= 1.931
YRES			(1.72)	DIER		(1.84)	ET4		(51.90)	YREL			AVER % ERR=	1.72	ESTIMATION= OLS

ESTIMATION FOR: YRES INCOME, RESIDENCE ADJUSTMENT (68) LAG DEPENDENT VARIABLE: YREL

KENT	-923.82	+	.0425	REGL	+	4.0938	REGL	+	.7374	KENT	+	2.2541	U.S.	R SQAR BAR=	.649	DURBIN WAT=	2.401
YRES			(1.76)	DIER		(1.66)	ET4		(4.28)	YREL		(1.18)	TIME	AVER % ERR=	9.53	ESTIMATION=	OLS
LOUS			E X O G E N O U S														
MAIN			E X O G E N O U S														
MARY	-426.23	+	.0389	REGL	+	1.0135	MARY	+	9.3496	U.S.				R SQAR BAR=	.997	DURBIN WAT=	2.317
YRES			(.44)	DIER		(12.46)	YREL		(1.07)	TIME				AVER % ERR=	1.84	ESTIMATION=	OLS
MASS	-286.17	+	.0268	REGL	+	.9072	MASS	+	-1.6453	U.S.				R SQAR BAR=	.992	DURBIN WAT=	2.485
YRES			(2.60)	DIER		(14.44)	YREL		(2.02)	TIME				AVER % ERR=	-5.22	ESTIMATION=	OLS
MICH	-182.34	+	1.0811	REGL	+	10.7783	U.S.							R SQAR BAR=	.995	DURBIN WAT=	1.681
YRES			(1.33)	ET4		(17.35)	TIME							AVER % ERR=	2.58	ESTIMATION=	C-O
MINN			E X O G E N O U S														
MISS	-23.77	+	.1540	REGL	+	1.0118	MISS	+	.7079	U.S.				R SQAR BAR=	.983	DURBIN WAT=	2.194
YRES			(.39)	ET4		(13.23)	YREL		(1.84)	TIME				AVER % ERR=	6.56	ESTIMATION=	OLS
MISR	-1060.95	+	.0369	REGL	+	6.9215	REGL	+	1.1080	MISR				R SQAR BAR=	.997	DURBIN WAT=	1.993
YRES			(1.61)	DIER		(2.40)	ET4		(45.71)	YREL				AVER % ERR=	-2.00	ESTIMATION=	OLS
MONT			E X O G E N O U S														
NEBR	-1.11	+	.0004	REGL	+	1.1191	NEBR							R SQAR BAR=	.986	DURBIN WAT=	2.344
YRES			(.16)	DIER		(33.62)	YREL							AVER % ERR=	-3.50	ESTIMATION=	OLS
NEVA	-91.18	+	.0041	REGL	+	.4966	REGL	+	1.0874	NEVA				R SQAR BAR=	.988	DURBIN WAT=	2.164
YRES			(2.44)	DIER		(1.93)	ET4		(17.33)	YREL				AVER % ERR=	-3.86	ESTIMATION=	OLS
NHAM	-386.93	+	.0144	REGL	+	21.0167	U.S.							R SQAR BAR=	.995	DURBIN WAT=	1.126
YRES			(2.02)	DIER		(15.61)	TIME							AVER % ERR=	2.96	ESTIMATION=	C-O
NJER	-4880.45	+	.0670	REGL	+	42.2173	REGL	+	.9642	NJER	+	17.2601	U.S.	R SQAR BAR=	.997	DURBIN WAT=	2.303
YRES			(.37)	DIER		(2.32)	ET4		(13.11)	YREL		(1.77)	TIME	AVER % ERR=	1.38	ESTIMATION=	OLS
NMEX	-42.87	+	.3553	REGL	+	.6265	NMEX	+	-.1550	U.S.				R SQAR BAR=	.748	DURBIN WAT=	2.136
YRES			(2.23)	ET4		(5.87)	YREL		(1.33)	TIME				AVER % ERR=	-4.06	ESTIMATION=	OLS
NYOR	-3085.28	+	.3413	REGL	+	.8262	NYOR	+	-44.8370	U.S.				R SQAR BAR=	.998	DURBIN WAT=	1.721
YRES			(2.30)	DIER		(7.00)	YREL		(2.07)	TIME				AVER % ERR=	-1.11	ESTIMATION=	C-O
NCAR			E X O G E N O U S														

ESTIMATION FOR: YRES INCOME, RESIDENCE ADJUSTMENT (68) LAG DEPENDENT VARIABLE: YREL

NDAK			E X O G E N O U S														
OHIO	-1987.28	+	.0796	REGL	+	12.5069	REGL	+	-12.8530	U.S.				R SQAR BAR=	.969	DURBIN WAT=	1.758
YRES			(2.61)	DIER		(3.78)	ET4		(11.95)	TIME				AVER % ERR=	-3.55	ESTIMATION=	OLS
OKLA			E X O G E N O U S														
OREG	-261.50	+	.0188	REGL	+	.5195	REGL	+	.4442	OREG	+	-2.5126	U.S.	R SQAR BAR=	.982	DURBIN WAT=	1.938
YRES			(2.13)	DIER		(.71)	ET4		(1.72)	YREL		(2.45)	TIME	AVER % ERR=	-6.56	ESTIMATION=	OLS
PENN			E X O G E N O U S														
RHIS	-376.28	+	.0230	REGL	+	1.0717	REGL	+	1.0395	RHIS	+	1.2345	U.S.	R SQAR BAR=	.992	DURBIN WAT=	1.330
YRES			(2.65)	DIER		(2.04)	ET4		(12.27)	YREL		(2.34)	TIME	AVER % ERR=	4.39	ESTIMATION=	OLS
SCAR	-191.82	+	.0040	REGL	+	11.1985	U.S.							R SQAR BAR=	.998	DURBIN WAT=	1.330
YRES			(2.10)	DIER		(22.78)	TIME							AVER % ERR=	2.62	ESTIMATION=	C-O
SDAK			E X O G E N O U S														
TENN	-485.65	+	.0230	REGL	+	2.7181	REGL	+	.8306	TENN	+	-2.6307	U.S.	R SQAR BAR=	.976	DURBIN WAT=	2.816
YRES			(.95)	DIER		(.86)	ET4		(5.82)	YREL		(1.77)	TIME	AVER % ERR=	-6.98	ESTIMATION=	OLS
TEXA			E X O G E N O U S														
UTAH			E X O G E N O U S														
VERM	-101.10	+	.0030	REGL	+	.6345	REGL	+	.8964	VERM				R SQAR BAR=	.942	DURBIN WAT=	1.798
YRES			(3.09)	DIER		(3.17)	ET4		(9.90)	YREL				AVER % ERR=	-5.69	ESTIMATION=	OLS
VIRG	-586.48	+	.0589	REGL	+	.9973	VIRG	+	7.2169	U.S.				R SQAR BAR=	.995	DURBIN WAT=	1.244
YRES			(.91)	DIER		(10.22)	YREL		(1.09)	TIME				AVER % ERR=	2.63	ESTIMATION=	OLS
WASH			E X O G E N O U S														
WVIR	-616.63	+	.0274	REGL	+	2.5787	REGL	+	.7823	WVIR				R SQAR BAR=	.861	DURBIN WAT=	1.633
YRES			(3.93)	DIER		(2.54)	ET4		(4.68)	YREL				AVER % ERR=	-5.77	ESTIMATION=	OLS
WISC	-129.63	+	.0040	REGL	+	.7401	REGL	+	.9382	WISC	+	1.9003	U.S.	R SQAR BAR=	.998	DURBIN WAT=	2.232
YRES			(.78)	DIER		(1.19)	ET4		(19.83)	YREL		(3.52)	TIME	AVER % ERR=	1.75	ESTIMATION=	OLS
WYOM			E X O G E N O U S														

DATE DUE SUBJECT TO RECALL

SEMESTER			
APR 29 1993 RETURNED			

Demco, Inc. 38-293

A000012546138